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Internal Causes of Falls:

Falls Prevention from the Ground UP©

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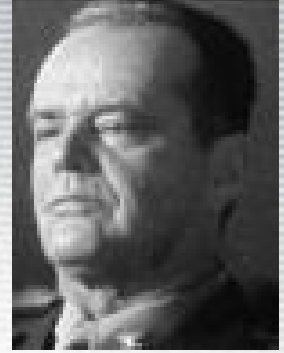
- Everybody agrees that it is a good thing to prevent falls in old people, but few have reported much success in doing so.
- The 1st step in preventing falls is to fall yourself…everyone needs to abandon faith in personal invulnerability

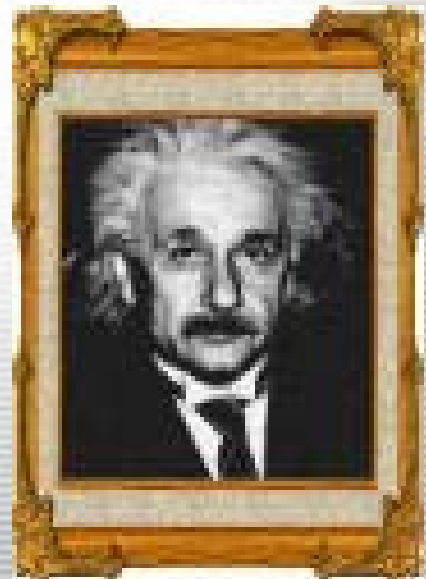
Truth about Falls:
You will be able to handle the truth!



- 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

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



FALLS & FALL PREVENTION

(RAND Corp Meta-regression Analysis 2003)

EXERCISE: 20% Decline in Fall Rate

RISK FACTOR REDUCTION: 46% Decline in fall rate

<u>MEDICATIONS</u>:

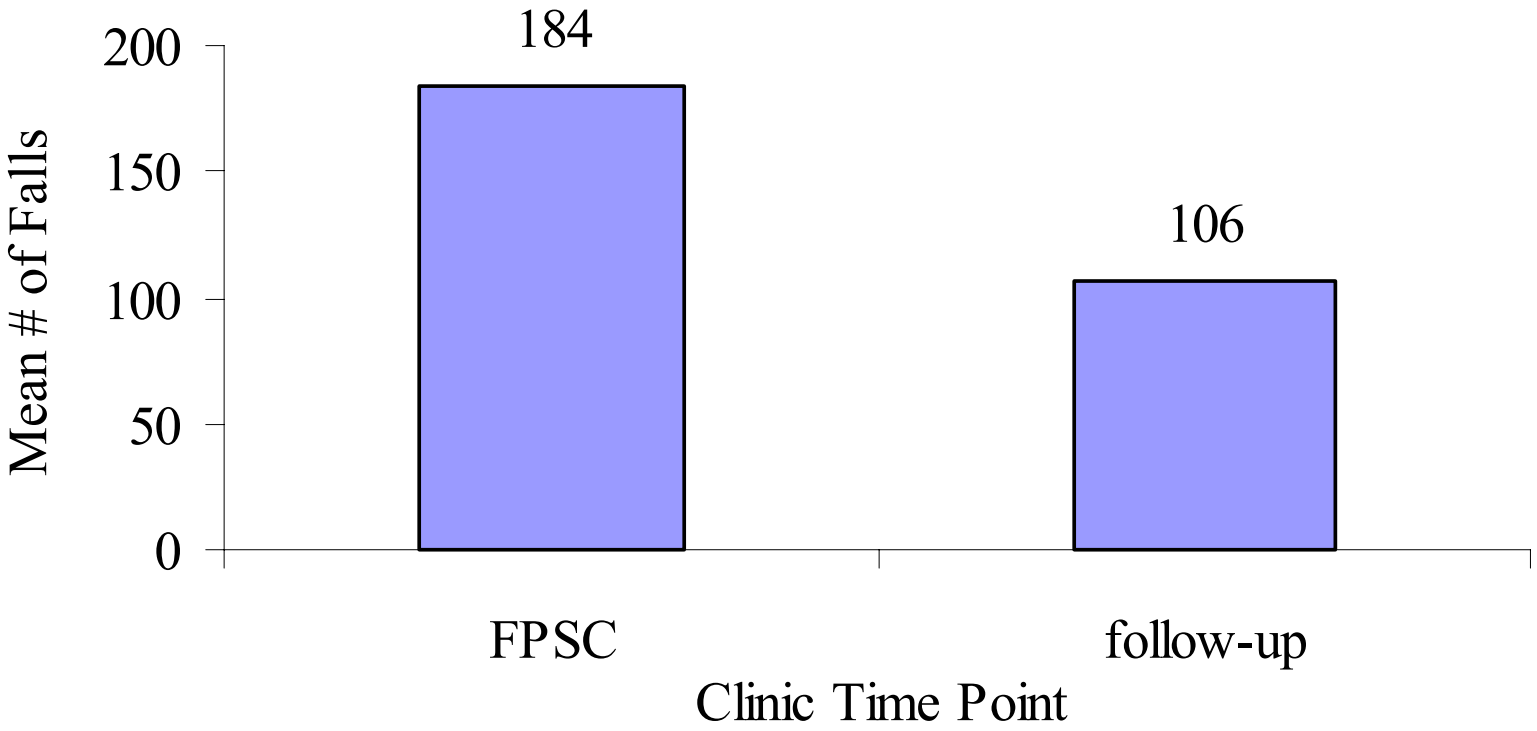
- **Prescribed by physicians**
- **Reviewed by pharmacist**
- **Given by nurses**
- **Effect observed by all**
- **Potential contributor to falls – of course**

Practical Approach to Falls Risk Assessment:

I-B-M-F: I Be More likely to Fall *© Castle 2003*

- **I**mpairment
- **B**ehavior
- **M**edical Conditions & **M**eds
- **F**oundation of stability
  - *– Combinations of impairments are the HIGHEST RISK*
  - *-Use to rank residents in order of risk*

Figure 2 - Reduction in Falls following FPSC



p = 0.0008

Figure 1 - Falls Efficacy Scale Changes with Time

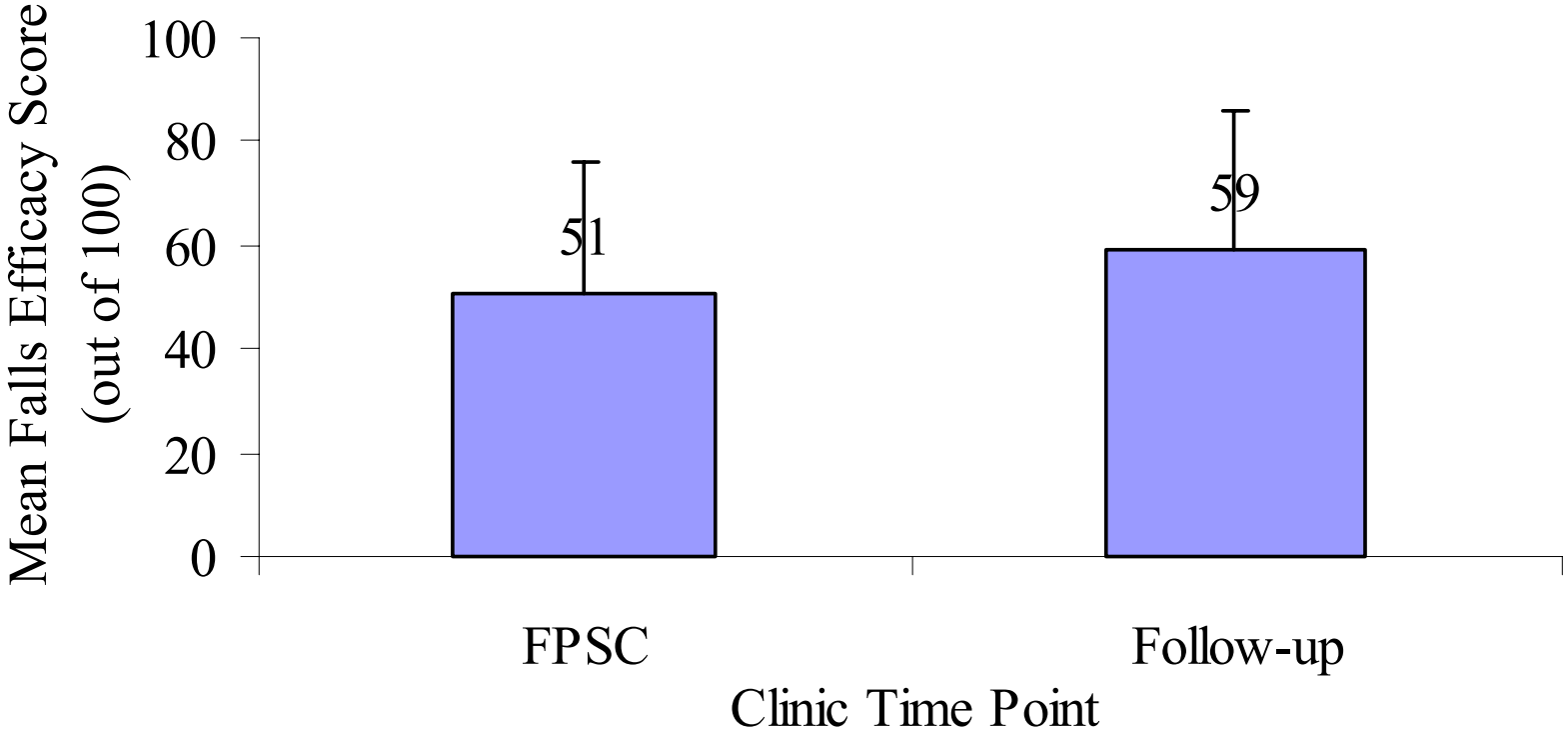


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Table 2 - Patient Satisfaction Survey Results Combined for all VISN 22 Facilities

	Patient Responses (%) n = 277			
Dimensions of Satisfaction	**Yes, Completely**	**Yes, Somewhat**	**No**	**Did Not Answer**
Courtesy of the Staff	98.2	1.5	0	0.3
Quality of Care	88.0	8.1	1.4	2.5
Clinic Logistic	88.6	7.7	0.7	3.0
Overall Satisfaction with Care	82.7	13.0	0.7	3.6

Impairment

I **B**e **M**ore likely to **F**all©

- 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

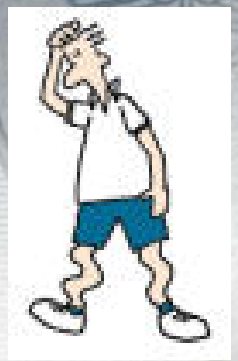
Impairment: *Cognition* (Mental Processes)

- **Distinguish: Dementia, Delirium, Depression**
  - **Overlap, co-existence**
- **Dementia**- Acquired, persistent, global deficit
  - Impaired in 3 out of 5 "cognitive domains":
    - personality
    - executive (solving problems)
    - -memory,
    - -language (speak, write 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

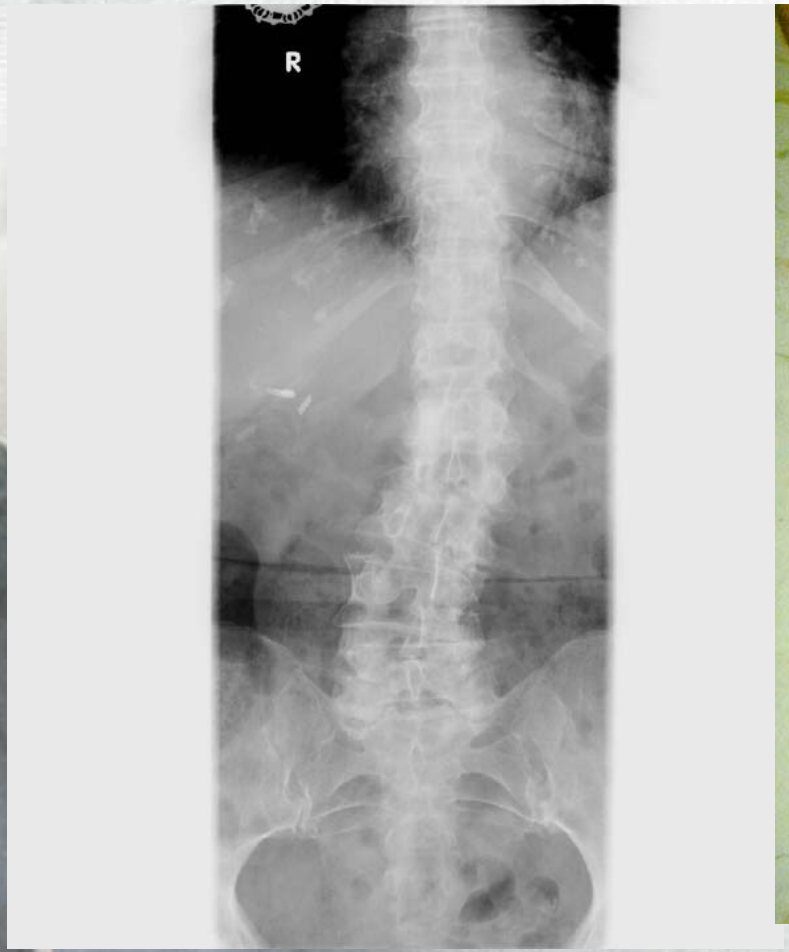


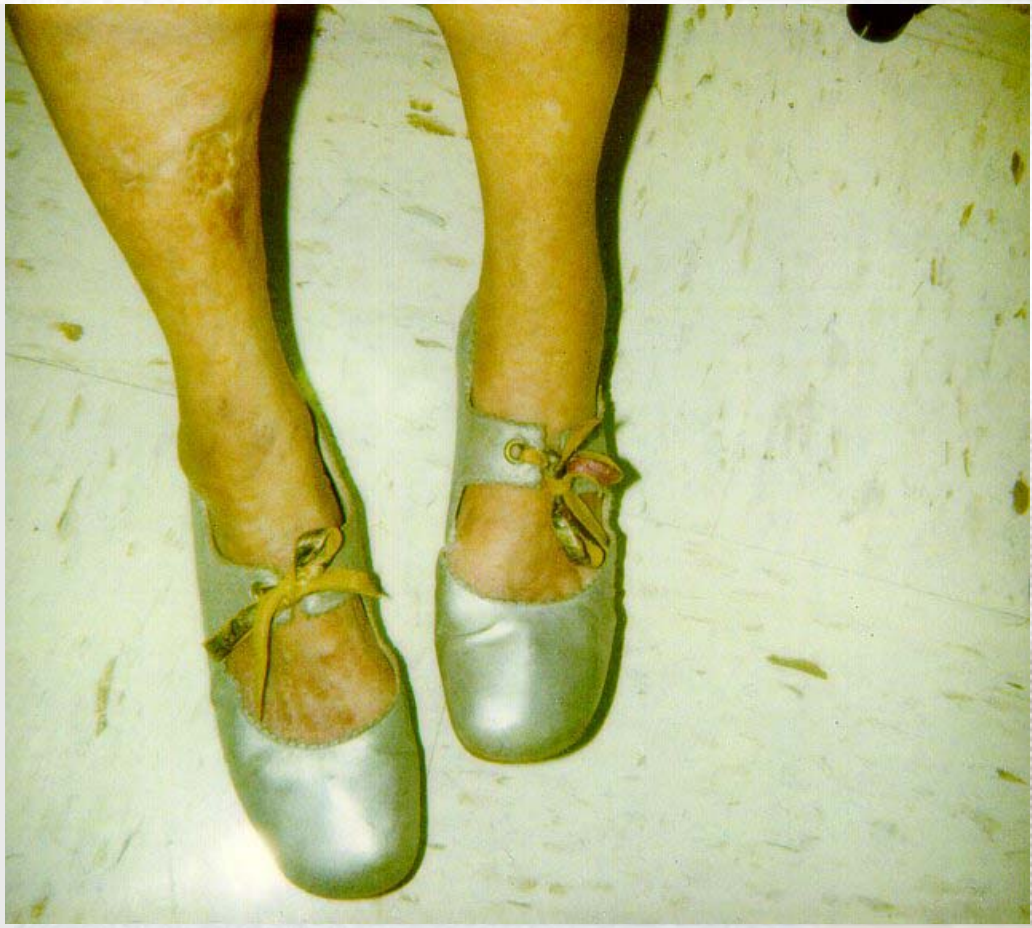
Impairment: Gait & Balance: WHY?

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**

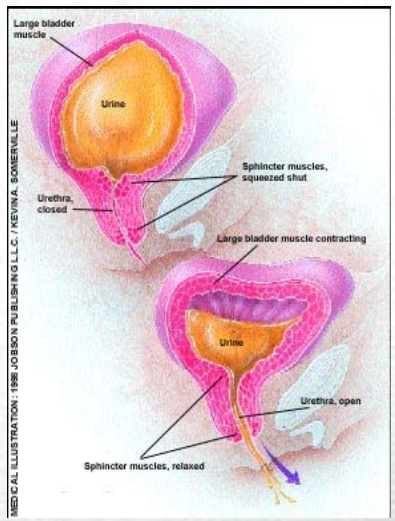
2. Diagnoses-

- **DELIRIUM** (change from usual, lethargic)
- Stroke, Parkinson's Disease,
- Lewy Body Dementia:
  - Stiff, Hallucinations, Fluctuation

Practical Approach to Falls Risk Assessment:

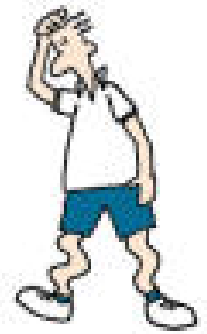
I-B-M-F: **M**edical Conditions

- 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*

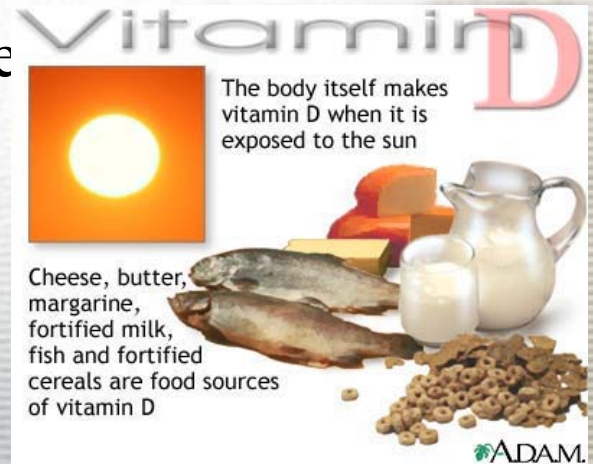
Control of medical issues that increase exposure from balance problems

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

Increased Risk of Injury if Fall Occurs

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

increase risk of injury



Review of High Risk Meds

- **HIGH risk medications PH^3 DOC^3 ©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**

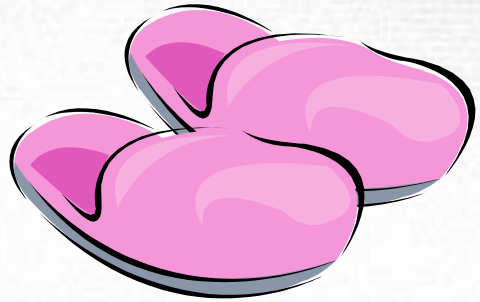
Patient "Self Efficacy"

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**:* **F**oundation of stability



- Vision
- Hearing
- Footwear/ Feet
- Assistive Device Use/ Equipment condition
- Protective Equipment
- Gait/Transfer Belts
- Environment-where you live

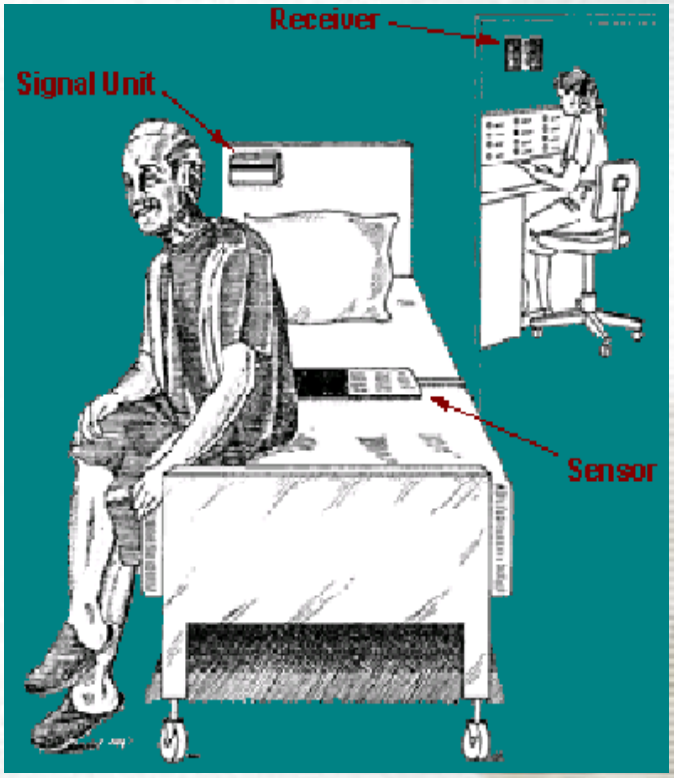
Foundation/Protection from Injury

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

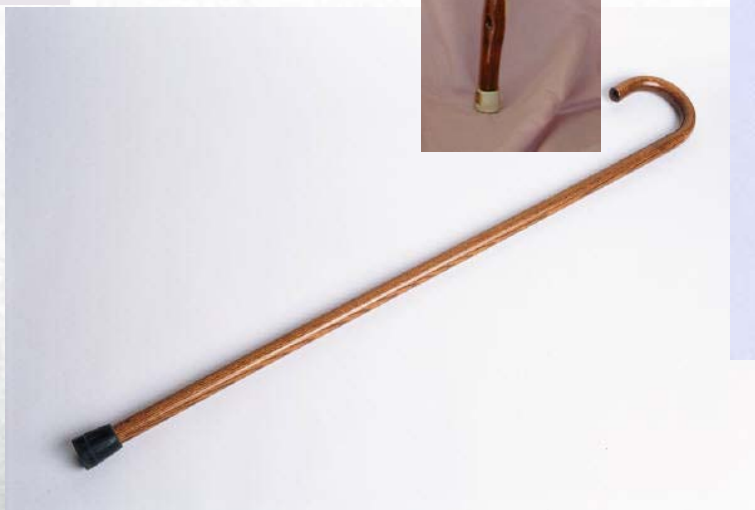
Protection from Injury: Residents who will fall
Hip Protectors

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

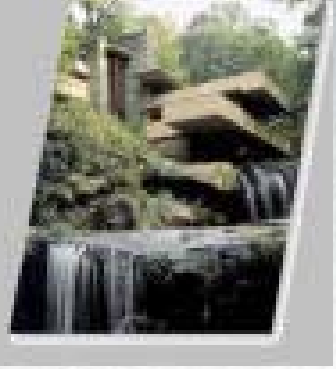


Practical Approach to Falls Risk Assessment:

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

New? Why Therapy Asst dev Supervision

- **I**mpairment
- **B**ehavior
- **M**edical Conditions
- **F**oundation of stability

Falls Prevention from the Ground UP©

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