

Falls: A Geriatric Syndrome

Assessment and Prevention

Aval-Na'Ree S. Green, MD

Assistant Professor of Medicine

General Medicine, Geriatrics, and Palliative Care

Department of Internal Medicine

University of Virginia Health System



Blast from the Past: Quick Review

- List the 5 ways that old people get sick
 - Anorexia
 - Functional decline
 - Urinary incontinence
 - Delirium
 - Falls
- Remember...it's just like the fussy or lethargic baby!!!!!!!!!!!!!!!!!!!!!!!!!!!!





HOW ARE YOU FEELING TODAY?

I FEEL JUST LIKE A NEWBORN BABY.



REALLY ?

YES. NO HAIR, NO TEETH, AND I THINK I JUST WET MY PANTS.

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2 Minute Brainstorm



Epidemiology of Falls

- > 1/3 of people age 65 and older fall each year
- Of those cases 50% are recurrent falls
- Falls are the leading cause of death from injury in people age 65 and older



Epidemiology of Falls

- ~ 1 in 10 falls results in serious injury
 - Hip or other fracture
 - Subdural hematoma or other head injury
 - Serious soft tissue injury
- Among the elderly, falls account for
 - 10% of ER visits
 - 6% of urgent hospitalizations

Who Cares?

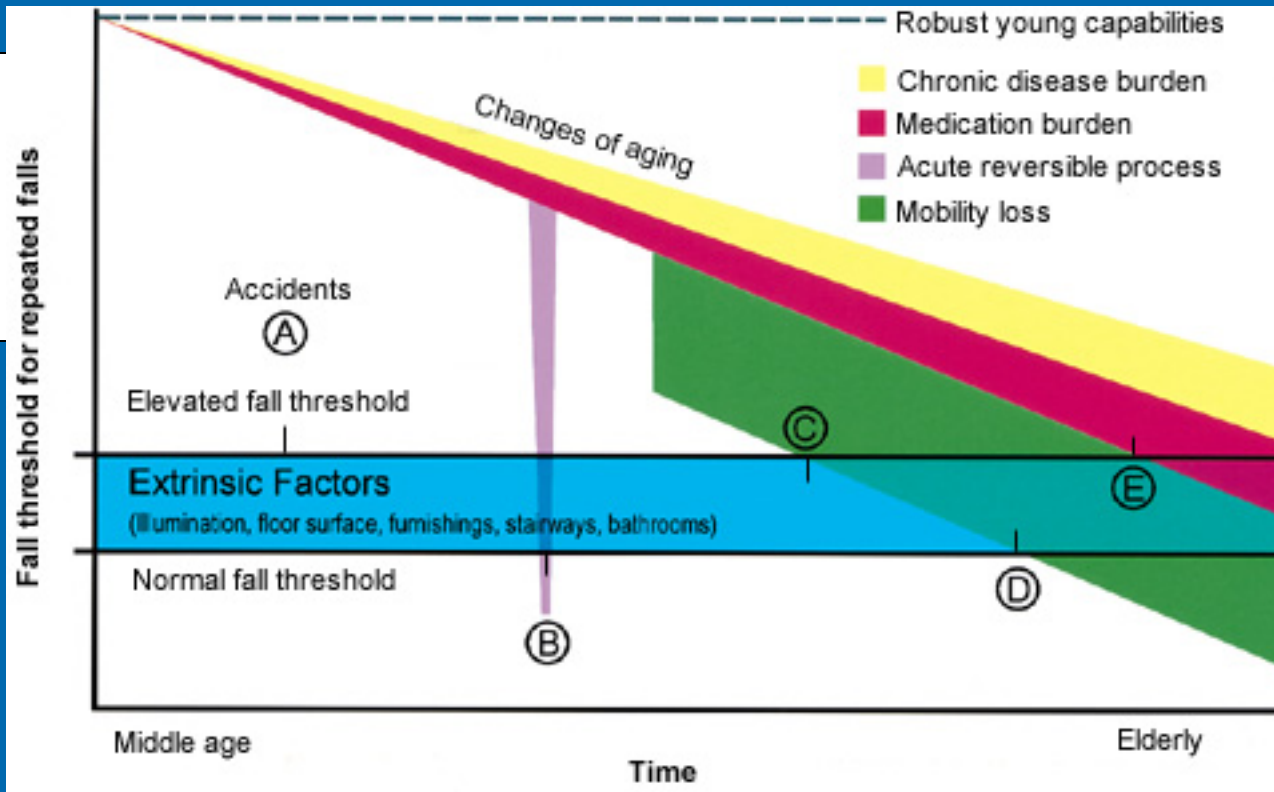


Sequelae of Falls

- Restricted mobility
- Functional decline
 - ADLs – “DEATH” (Dressing, Eating, Ambulating, Toileting, Hygiene)
 - IADLs – “SHAFT” (Shopping, Housekeeping, Accounting, Food Preparation, Transportation)
- Increased risk of nursing home placement

Causes of Falls

- Usually multi-factorial
- Interactions between intrinsic and extrinsic factors
- Interactions between pre-disposing factors and precipitating factors

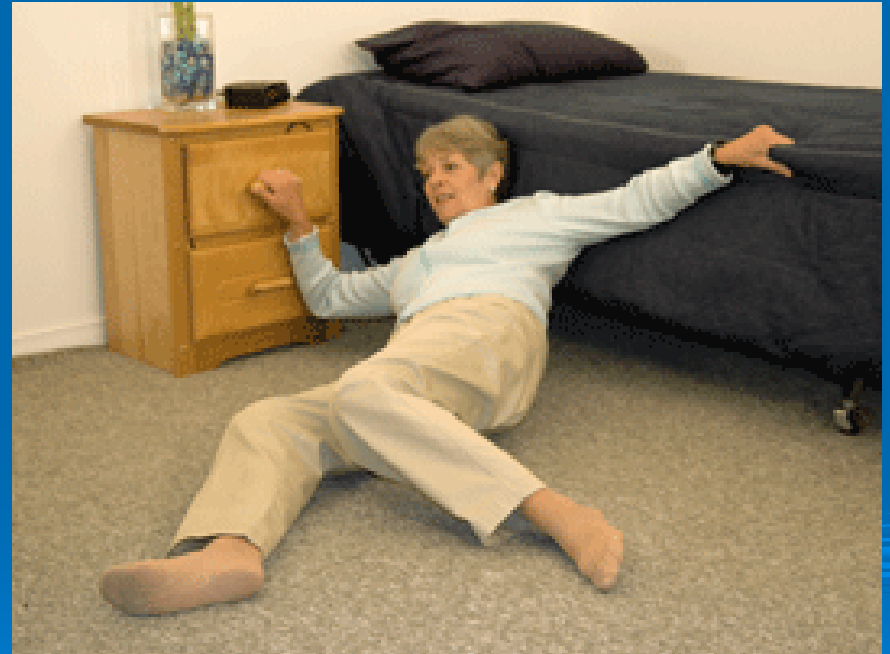


Risk Factors

- Weakness
- Vision impairment
- Arthritis
- Gait instability
- Balance problems
- Dizziness
- **Medications**
 - Drug-drug interactions
 - Drug-disease interactions
- Recent Hospitalization
- Alcohol Use
- Orthostasis
- Depressive Symptoms
- Cognitive Impairment
- Environmental Hazards
- Movement Disorder
 - Parkinson's Disease
- Age > 80
- Use of assistive device
 - proper use?
- History of falls
- Acute illness or exacerbation of chronic illness

Risk Factors

- The risk of falling increases as the number of risk factors increases
- In a cohort of community dwelling elders...
 - No risk factors: 8% risk of falling
 - > 4 risk factors: 78% risk of falling



Medications and Falls

- Meds are among the most readily modifiable risk factors
- 4 or more medications (polypharmacy) confers an increased risk of falling
- Psychotropic agents have the strongest link to increased risk of falling
- Try to avoid the Beer's List meds...

Medications and Falls

- “Start low and go slow”
- Minimum number of medications
- Educate pts regarding the indications for each medication
- Perform “brown bag biopsies” often
- Review meds regularly (esp. if pt sees other MDs)
- D/C drugs of uncertain benefit
- Diligently look for drug/drug and drug/disease interactions
 - Look for duplication of therapeutic action

2 Minute Brainstorm

- A 79 yo female with a PMHx of CHF, arthritis, depression, and insomnia presents for a follow-up visit. Her medications include an anti-depressant, a diuretic, an ACEI, a BB, and over the counter sleep and allergy medications. Her chronic conditions appear to be stable. Her daughter reports that the patient has fallen twice in the past 6 months. **What else do you need to know? What fall risk factors can you identify?**

“I’ve fallen and I can’t get up!”



Assessment: Low Risk or High Risk?

- Tailored to each patient's needs based on assessment of risk (low vs. high)
 - Back-packing across Europe?
 - Brief assessment
 - Hanging out at the SNF? Previous falls?
 - Comprehensive and detailed assessment



Assessment: The Essentials

➤ Take a good history

- Previous falls: “If you don’t ask...they won’t tell”
- Inquire about fear of falling, and perception of gait stability
 - Sometimes you have to be sneaky...
- Details about the circumstances of the fall
 - Eye witness accounts?
 - High risk activities?
 - How did you feel leading up to the fall (immediately and in weeks preceding the fall)?
 - Medications and recent changes?
 - Diet and recent changes?

Assessment: The Essentials

➤ Risk Factors

- Medicines, medicines, medicines!
- Modifiable (med side effect, muscle weakness, hypotension, etc)
- Non-modifiable (blindness, hemiplegia, etc)

➤ Functional Status

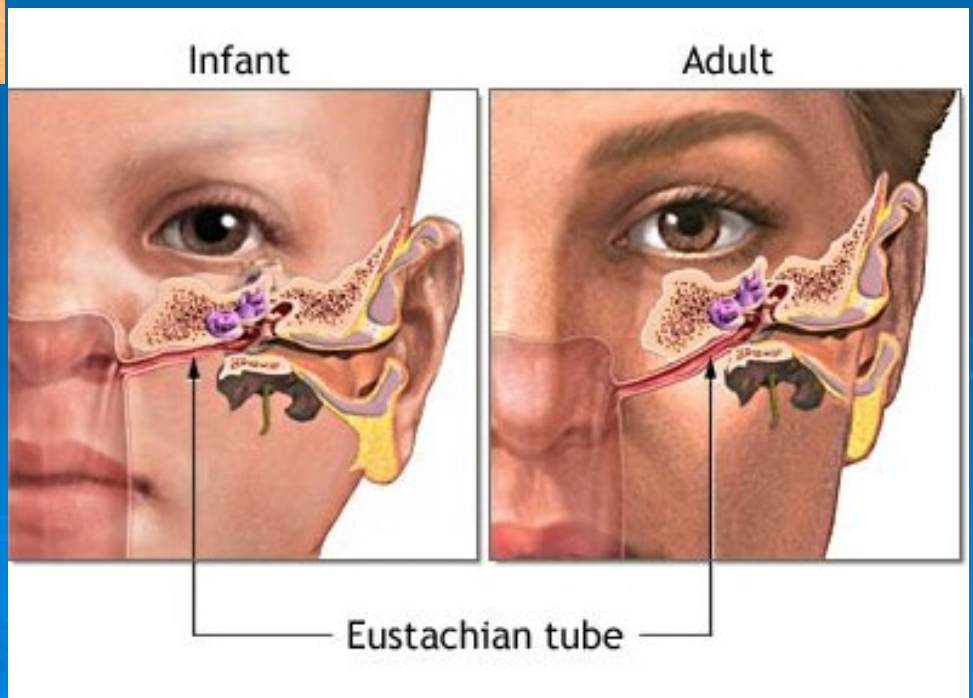
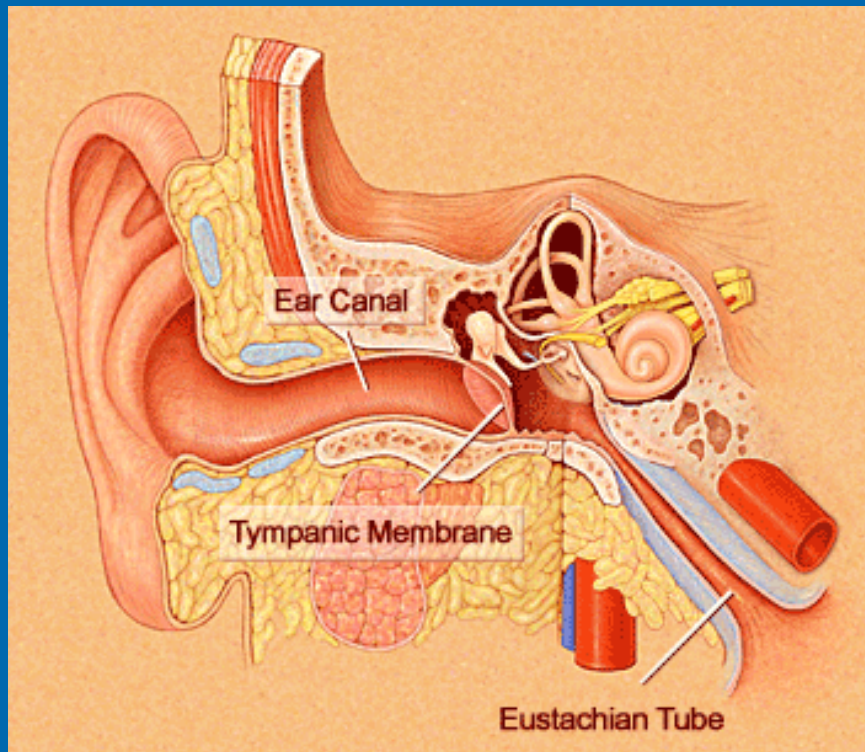
➤ Environmental Hazards

- Home safety evaluation?

Assessment: The Exam

➤ Comprehensive PE

- Orthostatic Vital Signs...
- HEENT
 - If there is dizziness and no other etiology is found, consider the ears and the nose
 - Wax, Eustachian Tube Dysfunction (ETD)
 - Allergic rhinitis = possible ETD = vertigo = falls



Assessment: The Exam

- Muscle tone, rigidity?
- Joints
- Neurologic Exam
 - Reflexes, proprioception, strength, cerebellar function, peripheral nerves, etc
- Watch them walk...
- If you are short on time...
 - Timed Get Up and Go test
 - Rise from a hard chair (without using the arms), walk 10 feet, turn around, return, and sit back down in the chair)
 - > 10 seconds = increased risk of falling

Assessment: Test/Studies

- Laboratory Tests (if indicated)
 - UA/UCx (NOT REFLEX!!!!!!)
 - CBC (get the diff), CMP, TSH-r, B12, 25-hydroxy vitamin D
- Other studies (based on exam findings)
 - CXR for abnormal lung exam
 - EKG for ectopy or palpitations

Then What?

- Reverse any underlying etiologies
 - Don't underestimate the power of treating SAR, ETD and ear wax!
- Modify medications according to principles mentioned above
- Physical therapy
 - Assistive devices if necessary
- Home safety evaluation
 - Modifications if necessary

Reducing Falls: Home Safety



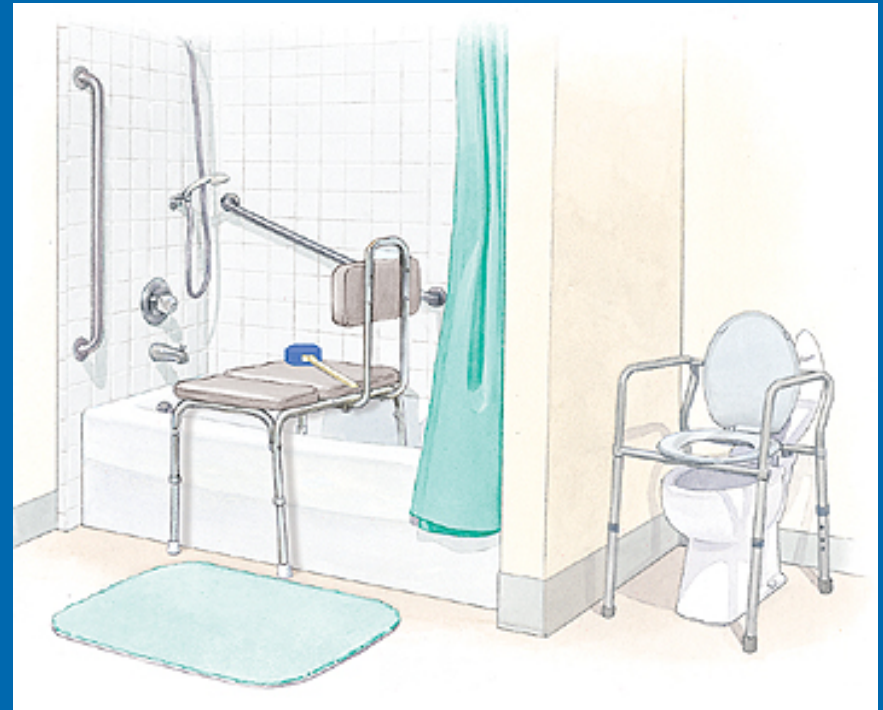
Home Safety Checklist

➤ All Living Spaces

- Remove throw rugs
- Secure carpet edges
- Remove low furniture and objects on the floor
- Reduce clutter
- Remove cords and wires on the floor
- Check lighting for adequate illumination at night (esp pathways to the bathroom)
- Secure carpet or treads on stairs
- Install handrails on stair cases
- Eliminate chairs that are too low to sit in and get out of easily
- Avoid floor wax
- Ensure that telephone can be reached from the floor

Home Safety Checklist

- Bathrooms
 - Install grab bars in the bathtub or shower and next to the toilet
 - Use rubber mats in the bathtub or shower
 - Take up floor mats when the bathtub or shower is not in use
 - Install a raised toilet seat



Home Safety Checklist

➤ Outdoors

- Repair cracked sidewalks
- Install handrails on stairs and steps
- Trim shrubbery along the pathway to the home
- Install adequate lighting by doorways and along walkways leading to doors



Success in Fall Prevention

- Most successful approaches are multifactorial assessments followed by targeted interventions
 - Gait training
 - Exercise programs with balance component (Tai Chi)
 - Med review/modification
 - Advice about assistive devices
 - Modification of environmental hazards
 - Treatment of underlying diseases



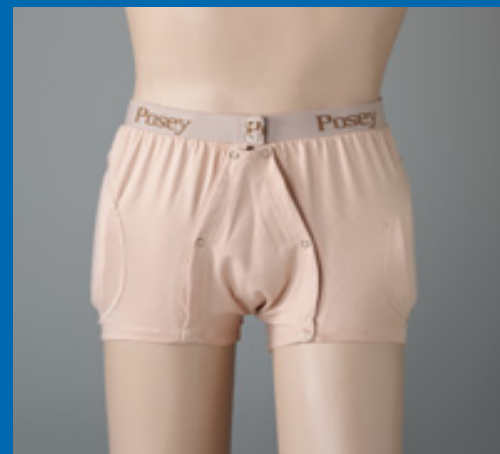
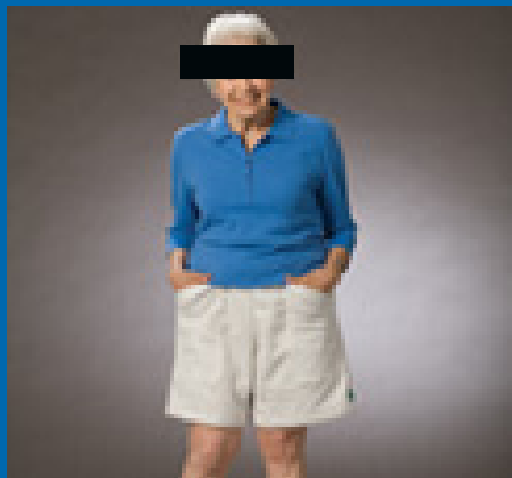
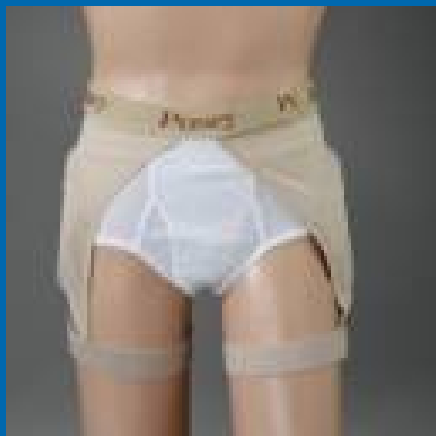
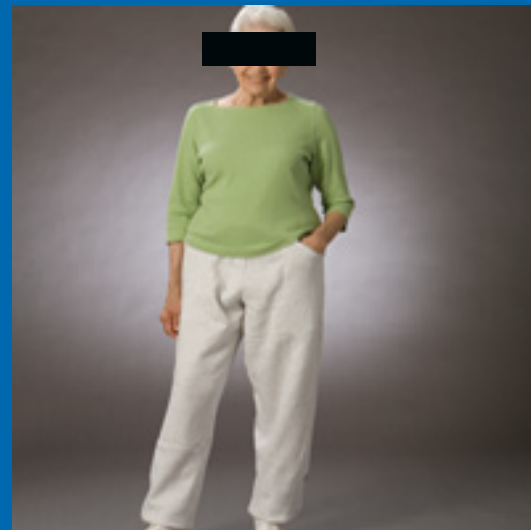
...and if a fall occurs anyway?

➤ Reduce the likelihood of fractures

- Low bone density increases the risk of hip and other fractures
 - Dexa scans
 - Vitamin D deficiency: VERY common in the elderly

➤ Hip Protectors

- Small RCT showed efficacy in high risk patients (60% reduction in hip fracture, 80% when worn consistently)



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References

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(Almost) The End

Questions?

“Self-DeFENCE”: Assistive Devices

