

Practical Strategies to Reduce Falls

Sponsored by the Finger Lakes Geriatric Education Center
The Ithaca College Gerontology Institute
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Presenters:

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Introduction and Background

Course Objectives

When considering a particular older person, you will be able to:

- Identify his or her fall risk factors and determine which ones are easily modified
- Be able to administer basic tests that clarify fall risk
- Identify whether this individual needs to be referred for further evaluation or therapy
- Understand how a physical therapist might help this person reduce their risk of falls

Case Study

Mrs. F is an 86 year old widowed female who has a history of diabetes and hypertension. Recently she had an ulcer on her foot that took months to heal. Her diabetes is under control and Mrs. F is able to give herself the insulin without a problem. She recently fell at home. Her daughter found her several hours later. Mrs. F told her daughter that she "tripped on the rug." Thankfully, she did not break a bone but did have bruising to the soft tissue. Over the course of several months her daughter noticed a decline in her mom's health and attributed this to old age. She stopped to visit on a Saturday afternoon and found her mom still in her nightgown and only socks on her feet. When her mom attempted to rise from her chair to greet her daughter it took several attempts before she was standing. Newspapers and magazines were piled by the chair and had not been recycled as in the past. Her daughter noticed that her mom reached out for the wall and the back of a chair as she was walking toward her. The daughter was concerned that her mom was getting weaker and not getting around as she once did.

Can you list the potential extrinsic factors that put Mrs. F at risk?

Can you list the intrinsic factors that put her at risk?

Is Mrs. F. likely to fall again?

Part 1. The Problem

Question: What percentage of people over the age of 65 fall each year?

Answer: Approximately 30%

- Women fall more frequently than men
- Older age is associated with increased fall risk.
- Those living in nursing homes fall more frequently than those living in the community.

Between 10 and 15% of falls result in serious injuries, including fractures.

Projected total cost of falls in 2020: \$32.4 billion.

Part 2. Extrinsic Risk Factors

Extrinsic = Environmental

- Clutter
- Area rugs or carpet problems
- Electrical cords crossing walkways
- Poor or inaccessible lighting
- Low toilet/No grab bars
- Items within easy reach
- Stair handrails – none, or inaccessible
- Unlevel surfaces, inside and out
- Slippery surfaces; spilled liquids, snow, ice

See **appendix 1** for a checklist that takes you room by room to identify problem areas.

Quick fixes for Extrinsic Risk factors

- Clear clutter
- Non-skid pads under area rugs; tape down throw rugs
- Re-route electrical cords and/or tape them down
- Increase bulb wattage in lamps
- Gadgets for turning on/off light switches – hardware store finds
- Grab bars in bathrooms – be sure to install professionally
- Secure handrails
- Unlevel surfaces – if can't fix them, highlight them! Use different colored paint or bright tape
- Add grit to the paint on porches to increase traction. Apply tread to slippery steps.
- For help contact area agency on aging for referral for low or no cost home repairs.

Part 3. Intrinsic Risk factors

Intrinsic = Internal – specific to the person

- Improper prescription and/or not wearing glasses
- Vision degeneration due to disease
- Improper footwear
- Foot conditions: decreased sensation, calluses, bunions, long toenails
- Poor physical condition
- Poor balance

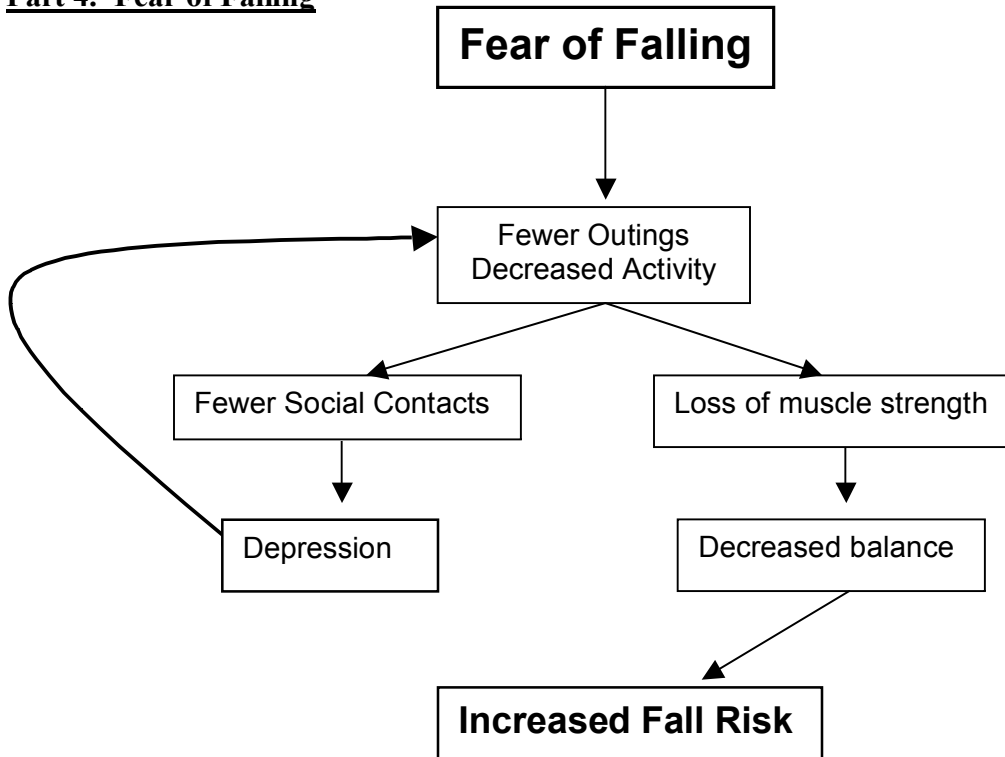
- Medications
 - Blood pressure medication
 - Sleeping pills
 - Anti-depressants
 - Diuretics (meds that rid excess fluid from the body)
 - Muscle relaxants
 - Pain medication
 - Multiple medications
- Medication side-effects
 - Light-headed
 - Visual changes
 - Mood swings
 - Ringing in ears
 - Forgetfulness, hallucinations paranoia
 - Changes in bowel/bladder
- Behavior problems
 - Not wearing glasses
 - Not parting with clutter
 - Keeping/wearing worn out shoes
 - Not turning on lights consistently
 - Not taking medications as directed

Question: Which of the following do older adults fear more?

- a) falling
- b) financial distress
- c) serious medical problems
- d) being robbed

Answer: falling

Part 4. Fear of Falling



Assessing fear of falling

Two methods:

Modified Falls Efficacy Scale – see **appendix 2**

Ask basic questions

- Concerned about falling?
- Confident in ability to get around?
- What makes you feel unsteady?
- Decreased activities due to concerns of falling?
- Concerned about ability to do things in house and out?
- Concerned about what to do if you fall?

Part 5. Quick screening for fall risk

Timed Up and Go (TUG)

Equipment needs:

Standard height chair with arms (usually 16-18' high)

A mark on the floor 10 feet from the chair (Tape works well)

A stopwatch or watch with a second hand

If the adult typically uses an assistive device such as a walker or cane this should be readily available.

Instructions: Use the following instructions:

Walk to the line on the floor, turn around and sit down with your back against the chair.

Time how long it takes them to do this full task. Also watch for the following:

1. Step quality.

- a. Are their step lengths short?
- b. Do they have a wide base of support? This means that they keep their feet far apart so that they are more stable.
- c. Are they shuffling their feet? Picking up their feet may cause them to feel unbalanced. Shuffling the feet keeps the feet in contact with the floor, which sometimes makes a person feel more stable. Unfortunately it also leads to tripping.

2. Observe balance.

- d. Does the client appear to be unsteady? Sometimes a person's arms are held up and out to the side, as if to assist in balance.
- e. Do they perform the turn with easy, or does it take several steps for them to turn around?

3. Watch the transition.

- a. When they move from sitting to standing do they need to use their arms to push up, or does it take a couple of tries?
- b. When moving from standing to sitting to they reach back for the arms of the chair? Do they fall back into the chair, or do they lower themselves in a controlled fashion?

Part 6. Warning Signs

When to Refer for Further Evaluation

- 1) Noticeable changes in gait.
- 2) Slow performance on the Timed Up and Go: longer than 14 seconds indicates the individual has significant fall risk and should have some intervention
- 3) Difficulty rising from a chair. If it takes a person more than one attempt to rise from a chair, that person should be referred for a physical therapy evaluation.
- 4) Inability to get up from the floor.
- 5) Signs of fear of falling. If the client has begun to restrict activity due to a fear of falling.
- 6) Repetitive falls – more than one in a month.

Part 7. Full Fall Evaluations

What could happen in a full fall evaluation?

- 1) A complete history of any falls, to identify time of day and circumstances of the falls.
- 2) Medications should be reviewed, including all prescription drugs, over the counter drugs and herbal remedies
- 3) Review of existing medical conditions.
- 4) Testing of vision, gait and balance

- 5) Leg examination – including an assessment of strength and flexibility of both legs
- 6) Foot exam

Part 8. What a Physical Therapist will do?

After evaluating the individual's physical risk factors a physical therapist will implement one or more of the following:

- 1) An exercise program, which may include strengthening and stretching exercises.
- 2) Education about risk factors, possible interventions, and the individual's prognosis for recovery.
- 3) Gait and balance training. Specific exercises and/or use of an assistive device, such as a cane or a walker.
- 4) Consultation on home modifications that can help to reduce fall risk.

Part 9. Case studies

Mrs. F (see beginning of workbook)

What are potential extrinsic factors that put Mrs. F at risk?

- clutter from the recycling
- potential rug problem

Solution: We need to ensure that the clutter is removed regularly, and check the rug for repair or replacement.

Can you list the intrinsic factors that put her at risk?

- medical conditions may require re-evaluation. Diabetes can get out of control when a person decreases his or her activity level without an adjustment of the insulin levels.
- balance disturbance
- probably decreased strength in her legs.
- Foot problems? (diabetes leads one to question whether she has sufficient sensation in her feet).
- fear of falling

Is Mrs. F. likely to fall again?

Yes – Mrs. F is at risk of repeated falls.

Case Study 2: Mrs. H

Mrs. H. is an 83 year old woman referred for home care evaluation and treatment as a result of multiple falls. Previous medical history includes bilateral hip replacements, right knee replacement, and a myocardial infarction. Medications included: 2 different prescription pain relievers, an antibiotic, a diuretic, an anti-hypertensive, an anti-anginal (for chest pain), potassium, and an anti-depressant. She lived with her cat in the lower apartment of an older home.

Question – What are Mrs. H's fall risk factors?

- large number of medications
- environmental hazards
- physical exam showed additional problems
- weakness
- balance deficits

Interventions implemented:

- Adjustment of medications
- Physical therapy – for strengthening, balance training, and training with a rolling walker

These interventions reduced many of Mrs. H's risk factors, but ultimately the extrinsic factors were so pronounced that she moved to a safer environment.

We value your comments and suggestions.

You can contact us at the Finger Lakes Geriatric Education Center
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Resources for Fall Prevention

Administration on Aging (AOA)

www.aoa.dhhs.gov

American Association of Retired Persons (AARP)

www.aarp.org

American Geriatrics Society (AGS)

www.americangeriatrics.org

American Society on Aging (ASA)

www.asaging.org

The Boston University Royal Center for the Enhancement of Late-Life Function

www.bu.edu/roybal

APPENDIX 1

Home Safety Evaluation

Check the following areas of the home. Areas marked “No” indicate potential problems. Decisions on whether to modify the problem area depend upon how often the individual with fall risk encounters the area.

Driveway

Yes	No	
		Paved?
		Level?
		# feet to entrance:

Mailbox Access

Yes	No	
		Paved?
		Level?
		Accessible?
		# feet to entrance:

Entrance to Home

Yes	No	
		Paved?
		Level?
		Accessible?
		Number of steps:
		Handrails?
		Non-slip surface?
		Door opens in?
		Threshold level?
		Door closes securely?

Garage

Yes	No	
		Clear pathway?
		Adequate/accessible lighting?
		Automatic door?
		Steps to house:

Hallways

Yes	No	
		Clear pathways?
		Adequate/accessible lighting?
		Clear floors (no scatter rugs)

Living Rooms

Yes	No	
		Adequate/accessible lighting?
		Clear path?
		Level flooring?
		Adequate seat height?
		Chairs with armrests?
		Stable furniture?
		Clear floors (no scatter rugs)

Eating Area

Yes	No	
		Adequate/accessible lighting?
		Clear path?
		Clear floors (no scatter rugs)
		Stable table/chairs?
		Adequate chair height?
		Good table height?

Kitchen

Yes	No	
		Adequate/accessible lighting?
		Clear path?
		Clear floors (no scatter rugs)
		Appliances function?
		Frequently used items accessible?
		Counters reasonably clear?

Laundry Area

Yes	No	
		Adequate/accessible lighting?
		Clear path?
		Clear floors (no scatter rugs)
		Accessible?

Bathrooms

Yes	No	
		Adequate/accessible lighting?
		Clear path?
		Clear floors (no scatter rugs)
		Grab bars present?
		Grab bars secure?
		Tub/shower accessible?
		Accessible storage?

Bedrooms

Yes	No	
		Adequate/accessible lighting?
		Clear path?
		Clear floors (no scatter rugs)
		Clothing accessible?
		Bed height appropriate?

APPENDIX 2

	Not confident at all					Fairly confident					Completely Confident
	0	1	2	3	4	5	6	7	8	9	10
Get dressed and undressed											
Prepare a simple meal											
Take a bath or shower											
Get in/out of a chair											
Get in/out of bed											
Answer the door or telephone											
Walk around the inside of your house											
Reach into cabinets or closets											
Light housekeeping											
Simple shopping											
Using public transportation											
Crossing roads											
Light gardening or hanging out the wash											
Using front or rear steps at home											