

Your Prescription to Clinical Excellence

Epidemiology of Falls

Annually, falls occur in **one third** of elders who are 65 years old. This statistic rises to 50% once a person reaches the age of 85 years old and above. Elders who experience one fall are 50% more likely to have a recurrence and 40% of nursing home admissions can be attributed to falls (1).

There are **two risk factors relating to falls**: *intrinsic* (the physical and cognitive status of a person) and *extrinsic* (environmental factors for example footwear or glasses) (1). The majority of falls occur during normal activities of daily living (ADL) with only 20% of falls taking place at night (1). Evaluating elder's vision, strength, peripheral sensation and reaction time provides a baseline for determining their risk for falls. As we age, balance, mobility and gait in combination with disease states impair our neuromuscular systems and senses (1).

There are **several disease states that are strongly linked to falls**: Parkinson's disease, strokes and impaired cognition. Other factors influencing falls include: dizziness, arthritis, and orthostatic hypotension (a drop of >20mg Hg of systolic blood pressure between lying and standing) (1, 2).

It is important to obtain an accurate report regarding the circumstances of a fall. Interviews should be obtained from the elder and all witnesses of the fall; often times the elder does not have an accurate recollection of the event. A proper analysis of the fall entails reviewing the individual's medical history along with medication regimen.

It may be beneficial to perform the **"timed-up-and-go test"** or Tinetti's gait and balance test (TUGT) which measures "the time it takes an individual to rise from a chair; walk 3m at normal pace and with usual assistive devices, turn, return to the chair and sit down" (1). **Impaired function** is determined if it takes the individual **>15 seconds** to complete this task.

In addition to the TUGT assessment, the clinician may perform a physiological profile assessment (PPA) (1). This test enables the clinician to quantify the fall risk of an individual. The PPA evaluates sensorimotor skills such as vision (visual acuity, contrast sensitivity, depth perception); peripheral sensation (vibration sense, tactile sensitivity, proprioception); strength (knee flexion, extension, ankle dorsiflexion); reaction time (hand/foot); postural sway (on a firm surface and foam rubber mat) and finally leaning balance (maximal balance range and coordinated stability) (1). All of the data collected from the PPA can be entered in a computer program that analyzes the individuals test scores against a normative database (2).

The report encompasses the following four indicators:

1. A graph that indicates the individuals overall risk for falls
2. A profile of the individual's test performances identifying strengths and weaknesses
3. A table with the individuals test scores against the normal values
4. A written report that details the results and recommends interventions that will compensate for the individuals deficits (2).



Did You Know....

Falls occur in 30-60% of elder adults each year.

10-20% of these result in injury, hospitalization and/or death.

There are approximately 1.5 falls/bed in nursing facilities each year.

10-25% of falls result in hospital admission and/or fractures.

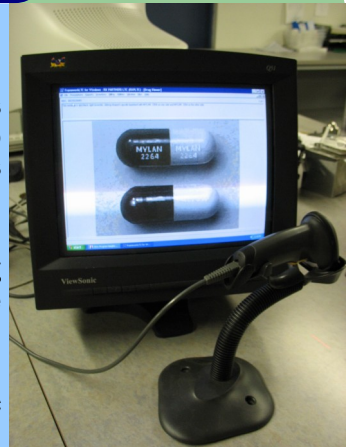
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Restorative and Preventative Approaches to Falls

1. A multidisciplinary approach to identifying the individual's level of risk for falls provides a baseline for the team to create a care plan that maximizes the person's independence while minimizing the risk.
2. Environmental modifications such as improved lighting, grab bars for the bathroom, raised toilet seats and lowering or raising the bed are all easy adjustments that improve outcomes (3).
3. Other therapies include treating the physiological manifestations of a disease, for example: cardiac dysrhythmias may be treated with a pacemaker and/or an antiarrhythmic drug (3).



Side Effects of Benzodiazepines:

- Ataxia
- Drowsiness
- Dizziness
- Postural disturbances
- Impaired motor coordination

Fast Facts.....

1. Falling, not osteoporosis, is the strongest single risk factor for a fracture in an older adult.
2. Pain and falling are closely linked together.
3. Vitamin D has receptors in both muscle and nervous tissue (1).
4. There are 1,800 fatal falls annually in nursing facilities.
5. \$19 Billion dollars was spent on medical costs due to adult falls in 2000 (6).
6. There is a 2-fold increase in risk in falls and fractures for residents who take psychotropic medications (7).

What can nurses check to prevent falls?

- Check alarms Q shift.
- Are they on?
- Are they working properly?
- Do they need batteries?

Resident Assessment Protocol (RAP): Falls

All nursing facilities are required to complete a Resident Assessment Instrument (RAI) on each resident. The RAI includes the Minimum Data Set (MDS) and the Resident Assessment Protocol (RAP). An RAI includes 13 domains and over 400 items regarding a resident's function, cognition, behavior and nutritional status (9). Items noted on the MDS during the time of an assessment can generate a RAP. There are 18 different RAPs that focus on specific target areas of a resident's condition and when completed create a specific care plan for at-risk residents (9). To create a functional RAP certain criterion regarding the assessment should be met:

- Validity/Recommendations
- Reliability/Reproducibility
- Clinical Applicability
- Clinical Flexibility
- Clarity/Format
- Scheduled Review
- Expertise required to complete
- Resources to assist the completion of the RAPs
- Multidisciplinary process

Pitfalls of an Improperly Completed RAP

- **Validity**- Recommendations are out of date; not all recommendations improve care
- **Reliability/Reproducibility**- RAP guidance is subjective and not specific
- **Clinical Applicability**- Importance of condition not noted; length of evaluation not stated; clinical issue not defined
- **Clinical Flexibility**- Does not specify if there is a need to repeat RAP; does not include resident input
- **Clarity/Format**- Lack diagrams or charts when appropriate; no standard length of reports
- **Scheduled Review**- Date of original RAP not noted and follow-up date not established
- **Expertise required to complete**- Multidisciplinary team not available (i.e. mental health worker, dentist) (9).



“Postfall Anxiety Syndrome”

Falls impact an elder physically and emotionally. The results include a decrease in quality of life, depression, social isolation and a fear of future falls. “Postfall anxiety syndrome” happens to approximately 73% of fallers. The fear of falling diminishes an elder’s confidence and leads to further functional decline. Rubenstein and Josephson utilized a “relative risk” (RR) scale to determine the elder’s risk of falling. The following is a list of key factors affecting falls:

1. Muscle weakness
2. History of falls
3. Gait deficits
4. Balance deficits
5. Use of assistive devices
6. Visual deficits
7. Arthritis
8. Impaired ADL’s
9. Depression
10. Cognitive impairments
11. >80 years old



“Exercise has been associated with a 10% reduction in falls with the strongest response from taking t’ai chi classes.” (7).

The benefits of exercise are lost if the individual discontinues their exercise program (1).

What Does Rx Partners-LTC Pharmacological Falls Risk Assessment Report Evaluate?

1. Reviews all drug classes and assigns a fall risk value: 1= low risk to 5 = high risk
2. Lists all medications the resident is taking that have a risk for falls and rates the medication (1-5)
3. The resident’s overall risk for falls is calculated by averaging the resident’s medications that impact falls

Why Use the Pharmacological Falls Risk Assessment?

Prospective tool to assess the resident’s risk of falling
 Provides additional information to create a resident safety plan

Microsoft Access - [FALL PREVENTION WITH CLASSES]

File Edit View Tools Window Help

Type a question for help

Fit Close Setup

Pharmacological Fall Risk Assessment

FACILITY NAME

Nursing Unit 3F

PatID ARTHM

Last Name	First Name	Room	Medication	Drug Sub Class	Weight	Precautions
WARY		306	CARBAMAZEPINE TAB 200MG	"Levodopa Combination"	2	Use caution. May cause sedation and/or dizziness. Be aware for possible risk effect. Notify increase fall risk.
Summary for PatID = ARTHM (0 detail records)					Avg Weight: 2	
PatID BBTLO						
LOIS		324H	REPRIAL TAB 1MG	"Benzodiazepine"	5	Consider dose reduction/reduction if appropriate.
LOIS		324H	TRIPAZOLINE TAB 30MG	"Alpha-2 Receptor Antagonists (Tetracycles)"	2	Use caution. May cause sedation and/or increasing risk of fall.
LOIS		324H	ARCEPT TAB 10MG	"Cloonimide - ACHE Inhibitor"	3	Use caution. Be aware for possible effect. Notify increase fall risk.
LOIS		324H	LEVOTHYROXINE TAB 125MG	"Thyroid Hormone"	2	Consider thyroid function monitoring if not recently evaluated. Monitor pt.
LOIS		324H	VALIENDA TAB 10MG	"N-Methyl-D-Aspartate (NMDA) Receptor Ant 3	3	Use caution. Be aware for possible effect. Notify increase fall risk.
Summary for PatID = BBTLO (5 detail records)					Avg Weight: 3	
PatID BRAZM						
WATTE		306	FLORICOMED TAB 200MG ER	"Potassium"	1	Physician may wish to know the electrolyte if not recently drawn.

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Rating: 5 has the highest risk of contributing to a fall. 1 has the lowest risk

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Ready CAPS NUM

Medication Classes and Side Effects Commonly Associated with Falls:

Antipsychotics

Can cause sedation, hypotension, changes in heart rate and rhythm, incontinence, reduced appetite

Hypnotics

The sedating or calming effects of hypnotics may lead to falls for those awakening at night. Hypnotics may also increase the risk of sleepwalking in some people

Anxiolytics

Can cause drowsiness, sedation, confusion, and difficulty maintaining balance

Diuretics

Can cause orthostatic pressure resulting in dizziness

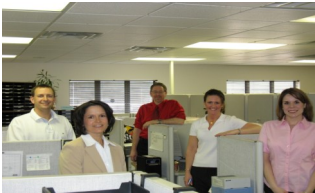
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*Inside this Edition...
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