Complete Summary

GUIDELINE TITLE

Preventing falls in acute care. In: Evidence-based geriatric nursing protocols for best practice.

BIBLIOGRAPHIC SOURCE(S)

Gray-Micelli D. Preventing falls in acute care. In: Capezuti E, Zwicker D, Mezey M, Fulmer T, editor(s). Evidence-based geriatric nursing protocols for best practice. 3rd ed. New York (NY): Springer Publishing Company; 2008. p. 161-98. [74 references]

GUIDELINE STATUS

This is the current release of the guideline.

This guideline updates a previous version: Resnick B. Preventing falls in acute care. In: Mezey M, Fulmer T, Abraham I, Zwicker DA, editor(s). Geriatric nursing protocols for best practice. 2nd ed. New York (NY): Springer Publishing Company, Inc.; 2003. p. 141-64.

COMPLETE SUMMARY CONTENT

SCOPE

DISEASE/CONDITION(S)

Falls and injury from falls

GUIDELINE CATEGORY

Evaluation
Management

Prevention
Risk Assessment

CLINICAL SPECIALTY

Geriatrics
Nursing
Physical Medicine and Rehabilitation

INTENDED USERS

Advanced Practice Nurses
Allied Health Personnel
Health Care Providers
Hospitals
Nurses
Physical Therapists
Physician Assistants
Physicians

GUIDELINE OBJECTIVE(S)

- To prevent falls and serious injury outcomes in hospitalized older adults
- To recognize multifactorial risks and causes of falls in older adults
- To institute recommendations for falls prevention and management consistent with clinical practice guidelines and standards of care

TARGET POPULATION

Hospitalized older adults

INTERVENTIONS AND PRACTICES CONSIDERED

Assessment

1. Intrinsic risk factors
2. Patient-care environment and extrinsic risk factors
3. Individualized PFA and physical assessment following a patient fall
4. Need for additional safety precautions and/or evaluation by specialist

Management

1. General safety precaution and fall prevention measures
2. Multidisciplinary plan of care for prevention
3. Staff education regarding procedures to follow in the event of a fall
4. Follow-up monitoring

MAJOR OUTCOMES CONSIDERED

- Incidence and etiology of falls in acute care settings
- Level of mobility at discharge

- Morbidity and mortality associated with falls

METHODOLOGY

METHODS USED TO COLLECT/SELECT EVIDENCE

Hand-searches of Published Literature (Primary Sources)
Hand-searches of Published Literature (Secondary Sources)
Searches of Electronic Databases

DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

Although the AGREE instrument (which is described in Chapter 1 of the original guideline document) was created to critically appraise clinical practice guidelines, the process and criteria can also be applied to the development and evaluation of clinical practice protocols. Thus the AGREE instrument has been expanded for that purpose to standardize the creation and revision of the geriatric nursing practice guidelines.

The Search for Evidence Process

Locating the best evidence in the published research is dependent on framing a focused, searchable clinical question. The PICO format—an acronym for population, intervention (or occurrence or risk factor), comparison (or control), and outcome—can frame an effective literature search. The editors enlisted the assistance of the New York University Health Sciences librarian to ensure a standardized and efficient approach to collecting evidence on clinical topics. A literature search was conducted to find the best available evidence for each clinical question addressed. The results were rated for level of evidence and sent to the respective chapter author(s) to provide possible substantiation for the nursing practice protocol being developed.

In addition to rating each literature citation to its level of evidence, each citation was given a general classification, coded as "Risks," "Assessment," "Prevention," "Management," "Evaluation/Follow-up," or "Comprehensive." The citations were organized in a searchable database for later retrieval and output to chapter authors. All authors had to review the evidence and decide on its quality and relevance for inclusion in their chapter or protocol. They had the option, of course, to reject or not use the evidence provided as a result of the search or to dispute the applied level of evidence.

Developing a Search Strategy

Development of a search strategy to capture best evidence begins with database selection and translation of search terms into the controlled vocabulary of the database, if possible. In descending order of importance, the three major databases for finding the best primary evidence for most clinical nursing questions are the Cochrane Database of Systematic Reviews, Cumulative Index to Nursing and Allied Health Literature (CINAHL), and Medline or PubMed. In addition, the PsycINFO database was used to ensure capture of relevant evidence in the psychology and behavioral sciences literature for many of the topics. Synthesis

sources such as UpToDate® and British Medical Journal (BMJ) Clinical Evidence and abstract journals such as *Evidence Based Nursing* supplemented the initial searches. Searching of other specialty databases may have to be warranted depending on the clinical question.

It bears noting that the database architecture can be exploited to limit the search to articles tagged with the publication type "meta-analysis" in Medline or "systematic review" in CINAHL. Filtering by standard age groups such as "65 and over" is another standard categorical limit for narrowing for relevance. A literature search retrieves the initial citations that begin to provide evidence. Appraisal of the initial literature retrieved may lead the searcher to other cited articles, triggering new ideas for expanding or narrowing the literature search with related descriptors or terms in the article abstract.

NUMBER OF SOURCE DOCUMENTS

Not stated

METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE

Weighting According to a Rating Scheme (Scheme Given)

RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

Levels of Evidence

Level I: Systematic reviews (integrative/meta-analyses/clinical practice guidelines based on systematic reviews)

Level II: Single experimental study (randomized controlled trials [RCTs])

Level III: Quasi-experimental studies

Level IV: Non-experimental studies

Level V: Care report/program evaluation/narrative literature reviews

Level VI: Opinions of respected authorities/Consensus panels

METHODS USED TO ANALYZE THE EVIDENCE

Review of Published Meta-Analyses
Systematic Review

DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE

Not stated

METHODS USED TO FORMULATE THE RECOMMENDATIONS

Expert Consensus

DESCRIPTION OF METHODS USED TO FORMULATE THE RECOMMENDATIONS

Not stated

RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

Not applicable

COST ANALYSIS

A formal cost analysis was not performed and published cost analyses were not reviewed.

METHOD OF GUIDELINE VALIDATION

External Peer Review
Internal Peer Review

DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

Not stated

RECOMMENDATIONS

MAJOR RECOMMENDATIONS

Note from the National Guideline Clearinghouse (NGC): In this update of the guideline, the process previously used to develop the geriatric nursing protocols has been enhanced.

Levels of evidence (I – VI) are defined at the end of the "Major Recommendations" field.

Parameters of Assessment

- Assess and document all older adult patients for intrinsic risk factors to fall:
  - Advancing age, especially if older than 75
  - History of a recent fall
  - Specific co-morbidities: dementia, hip fracture, type II diabetes, Parkinson's disease, arthritis, and depression
  - Functional disability: use of assistive device
  - Alteration in level of consciousness or cognitive impairment
  - Gait, balance, or visual impairment

    - Use of high-risk medications (Chang et al., 2004 **[Level I]**)
    - Urge urinary incontinence (Brown, Vittinghoff, & Wyman, 2000 **[Level III]**)
    - Physical restraint use (Capezuti et al., 2002 **[Level III]**)
    - Bare feet or inappropriate footwear
    - Identify risks for significant injury due to current use of anticoagulants such as Coumadin, Plavix, or aspirin and/or those with osteoporosis or risks for osteoporosis (Resnick, 2003 **[Level VI]**).
- Assess and document patient-care environment routinely for extrinsic risk factors to fall and institute corrective action:
    - Floor surfaces for spills, wet areas, and unevenness
    - Proper level of illumination and functioning of lights (night light works)
    - Table tops, furniture, beds are sturdy and are in good repair
    - Grabrails and grab bars are in place in the bathroom
    - Use of adaptive aides work properly and are in good repair
    - Bedrails do not collapse when used for transitioning or support
    - Patient gowns/clothing do not cause tripping
    - Intravenous (IV) poles are sturdy if used during ambulation and tubing does not cause tripping.
- Perform a post-fall assessment (PFA) following a patient fall to identify possible fall causes (if possible, begin the identification of possible causes within 24 hours of a fall) as determined during the immediate, interim, and longitudinal post-fall intervals. Because of known incidences of delayed complication of falls, including fractures, observe all patients for about 48 hours after an observed or suspected fall ("Guideline for the prevention," 2001 **[Level VI]**; Emergency Care Research Institute [ECRI], 2006 **[Level VI]**; Gray-Miceli et al, 2006 **[Level III]**):
    - Perform a physical assessment of the patient at the time of the fall, including vital signs (which may include orthostatic blood pressure readings), neurological assessment, and evaluation for head, neck, spine, and/or extremity injuries.
    - Once the assessment rules out any significant injury:
        - Obtain a history of the fall by the patient or witness description and document
        - Note the circumstances of the fall: location, activity, time of day, and any significant symptoms
        - Review of underlying illness and problems
        - Review medications
        - Assess functional, sensory, and psychological status
        - Evaluate environmental conditions
        - Review risk factors for falling ("Guideline for the prevention," 2001; American Medical Directors Association [AMDA], 1998; ECRI, 2006; University of Iowa Gerontological Nursing Interventions Research Center [UIGN], 2004; Resnick, 2003 [**all Level VI]**)
- In the acute-care setting, an integrated multidisciplinary team (consisting of the physician, nurse, health care provider, risk manager, physical therapist, and other designated staff) plans care for the older adult, at risk for falls or who has fallen, hinged on findings from an individualized assessment (ECRI, 2006; Joint Commission on Accreditation of Healthcare Organizations [JCAHO], 2006 **[both Level VI]**).
- The process approach to an individualized PFA includes use of standardized measurement tools of patient risk in combination with a fall-focused history

and physical examination, functional assessment, and review of medications ("Guideline for the prevention," 2001; AMDA, 1998; Resnick, 2003; UIGN, 2004 **[all Level VI]**). When plans of care are targeted to likely causes, individualized interventions are likely to be identified. If falling continues despite attempts at individualized interventions, the standard of care warrants a reexamination of the older adult and their falls.

Nursing Care Strategies

- General safety precaution and fall prevention measures that apply to all patients, especially older adults:
    - Assess the patient care environment routinely for extrinsic risk factors and institute appropriate corrective action.
        - Use standardized environmental checklists to screen; document findings.
        - Communicate findings to risk managers, housekeeping, maintenance department, all staff and hospital administration, if needed.
        - Re-evaluate environment for safety (ECRI, 2006 **[Level VI]**).
    - On admission, assess/screen older adult patient for multifactorial risk factors to fall, following a change in condition, on transfer to a new unit, and following a fall (ECRI, 2006 **[Level VI]**):
        - Use standardized or empirically tested fall-risk tools in conjunction with other assessment tools to evaluate risk for falling (e.g., Tinetti Performance Oriented Mobility, the Timed Get Up and Go Test, [Tinetti, Williams, & Mayewski, 1986] **[Level II]**; "Guideline for the prevention," 2001 **[Level VI]**).
        - Document findings in nursing notes, interdisciplinary progress notes, and the problem list.
        - Communicate and discuss findings with interdisciplinary team members.
        - In the interdisciplinary discussion, include review and reduction or elimination of high-risk medications associated with falling.
        - As part of falls protocol in the facility, flag the chart or use graphic or color display of the patient's risk potential to fall.
        - Communicate to the patient and the family caregiver identified risk to fall and specific interventions chosen to minimize the patient's risk.
        - Include patient and family members in the interdisciplinary plan of care and discussion about fall-prevention measures.
        - Promote early mobility and incorporate measures to increase mobility, such as daily walking, if medically stable and not otherwise contraindicated.
        - Upon transfer to another unit, communicate the risk assessment and interventions chosen and their effectiveness in fall prevention.
        - Upon discharge, review with the older patient and or family caregiver the fall risk factors and measures to prevent falls in the home. Provide patient literature/brochures if available. If not readily available, refer to the Internet for appropriate Web sites and resources.

        - Explore with the older patient and/or family caregiver avenues to maintain mobility and functional status; consider referral to home-based exercise or group exercises at community senior centers. If discharge is planned to a subacute or rehabilitation unit, label the older adult's mobility status, functional status, and other forms of activity in the home to increase gait or balance on the transfer form.
    - Institute general safety precautions according to facility protocol, which may include:
        - Referral to a falls prevention program
        - Use of a low-rise bed that measures 14 inches from floor
        - Use of floor mats if patient is at risk for serious injury, such as osteoporosis
        - Easy access to call light
        - Minimization and/or avoidance of physical restraints
        - Use of personal or pressure sensors alarms
        - Increased observation and surveillance
        - Use of rubber-sole heeled shoes or nonskid slippers
        - Regular toileting at set intervals and/or continence program; provide easy access to urinals and bedpans
        - Observation during walking rounds or safety rounds
        - Use of corrective glasses for walking
        - Reduction of clutter in traffic areas
        - Early mobility program (ECRI, 2006 **[Level VI]**)
    - Provide staff with clear, written procedures describing what to do when a patient fall occurs.
- Identify specific patients requiring additional safety precautions and/or evaluation by a specialist, or:
    - Those with impaired judgment or thinking due to acute or chronic illness (delirium, mental illness)
    - Those with osteoporosis, at risk for fracture
    - Those with current hip fracture
    - Those with current head or brain injury (standard of care)
- Review and discuss with interdisciplinary team findings from the individualized assessment and develop a multidisciplinary plan of care to prevent falls (Chang et al., 2004 **[Level I]**).
    - Communicate to the physician or advance practice nurse important PFA findings (ECRI, 2006 **[Level VI]**).
    - Monitor the effectiveness of the falls prevention interventions instituted.
    - Following a patient's fall, observe for serious injury due to a fall and follow facility protocols for management (standard of care).
    - Following a patient's fall, monitor vital signs, level of consciousness, neurological checks, and functional status per facility protocol. If significant changes in patient's condition occurs, consider further diagnostic tests such as plain film x-rays, CT scan of the head/spine/extremity, neurological consultation, and/or transfer to a specialty unit for further evaluation (standard of care).

Table: Interventions to Decrease Risk for Falls

Risk Factors	Nursing Interventions

	to Decrease Risk for the Individual
History of Falls	Identify the patient as being at risk for falls: may use sticker on chart or door
Fear of Falling	Encourage patient to verbalize feelings Strengthen self-efficacy related to transfers and ambulation by providing verbal encouragement about capabilities and demonstrating to patient his/her ability to perform safely
Bowel and Bladder Incontinence	Set up regular voiding schedule (every 2 hours or as appropriate based on patient need) Monitor bowel function and encourage sufficient fluids and fiber (eight 8-ounce glasses daily and 24 grams of fiber) Utilize laxatives as appropriate
Cognitive Impairment	Evaluate patient for reversible causes of cognitive impairment/delirium and eliminate causes as relevant Monitor resident with cognitive impairment at least hourly with relocation of the patient such that nursing staff can observe/monitor regularly Encourage family member to hire staff or stay with patient continuously

	Utilize monitoring devices if accessible (i.e., bed/chair or exit alarms)
Mood	Encourage verbalization of feelings Evaluate patient's ability to concentrate and learn new information Encourage engagement in daily activities. Refer to geriatric psychiatry as appropriate
Dizziness	Monitor lying, sitting and standing blood pressures and continually evaluate for factors contributing to dizziness Encourage adequate fluid intake (eight 8-ounce glasses daily) Set up environment to avoid movements that result in dizziness/vertigo If diabetic, monitor blood sugars and facilitate interventions to maintain appropriate blood sugars
Functional Impairment	Encourage participation in personal care activities at highest level (i.e., if possible encourage ambulation to bathroom rather than use of bedpan) Refer to physical and occupational therapy as appropriate Facilitate adherence to exercise program when indicated and remind exercise is the best way to prevent future falls

Medications	Review medications with primary health care provider in the acute care setting and determine need of each medication Ascertain that medications are being used at lowest possible dosages to obtain desired results
Medical Problems	Working with primary health care provider in acute care settings augment management of primary medical problem such as Parkinson's Disease or congestive heart failure or anemia Assure patient that medical problems are not a reason to remain in bed and prevent participation in functional activities
Environment	Remove furniture if patient can't sit on it and have his or her feet reach the floor Remove clutter Make sure furniture and any assistive devices used are in good condition Make sure lighting is adequate Make sure safety bars are available in bathrooms AVOID rails and restraints If the individual has fallen out of bed (particularly more than once) alter the environment so that the mattress is on the floor.

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Follow-up Monitoring of Condition

- Monitor fall incidence and incidences of patient injury due to a fall, comparing rates on the same unit over time.
- Compare falls per patient month against national benchmarks available in the National Database of Nursing Quality Indicators.
- Incorporate continuous quality improvement criteria into falls prevention program.
- Identify falls team members and roles of clinical and nonclinical staff (ECRI, 2006 **[Level VI]**).
- Educate patient and family caregivers about falls prevention strategies so they are prepared for discharge (Resnick, 2003 **[Level VI]**; UIGN, 2004 **[Level VI]**).

Definitions:

Level I: Systematic reviews (integrative/meta-analyses/clinical practice guidelines based on systematic reviews)

Level II: Single experimental study (randomized controlled trials [RCTs])

Level III: Quasi-experimental studies

Level IV: Non-experimental studies

Level V: Care report/program evaluation/narrative literature reviews

Level VI: Opinions of respected authorities/Consensus panels

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CLINICAL ALGORITHM(S)

None provided

EVIDENCE SUPPORTING THE RECOMMENDATIONS

REFERENCES SUPPORTING THE RECOMMENDATIONS

References open in a new window

TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

The type of supporting evidence is identified and graded for selected recommendations.

BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

POTENTIAL BENEFITS

Patient

- Safety
- Avoidance of falls
- Absence of s serious injury outcomes from a falls that occur
- Knowledge of their risks for falling
- Prepared at discharge to prevent falls in their homes
- Prehospitalization level of mobility at discharge
- Promptly assessment and treatment of fall-related complications to prevent adverse outcomes

Nursing Staff

- Accurate detection, referral, and management of older adults at risk for falling or who have experienced a fall
- Integration into their practice comprehensive assessment and management approaches for prevention of falls in the institution
- Gained appreciation for older adults' unique experience of falling and how it influences their daily living, functional, physical, and emotional status
- Education of older adult patients anticipating discharge about falls prevention strategies

POTENTIAL HARMS

Not stated

IMPLEMENTATION OF THE GUIDELINE

DESCRIPTION OF IMPLEMENTATION STRATEGY

An implementation strategy was not provided.

INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

IOM CARE NEED

Staying Healthy

IOM DOMAIN

Effectiveness
Safety

IDENTIFYING INFORMATION AND AVAILABILITY

BIBLIOGRAPHIC SOURCE(S)

Gray-Micelli D. Preventing falls in acute care. In: Capezuti E, Zwicker D, Mezey M, Fulmer T, editor(s). Evidence-based geriatric nursing protocols for best practice. 3rd ed. New York (NY): Springer Publishing Company; 2008. p. 161-98. [74 references]

ADAPTATION

Not applicable: The guideline was not adapted from another source.

DATE RELEASED

2003 (revised 2008 Jan)

GUIDELINE DEVELOPER(S)

Hartford Institute for Geriatric Nursing - Academic Institution

GUIDELINE DEVELOPER COMMENT

The guidelines were developed by a group of nursing experts from across the country as part of the Nurses Improving Care for Health System Elders (NICHE) project, under sponsorship of The John A. Hartford Foundation Institute for Geriatric Nursing.

SOURCE(S) OF FUNDING

Supported by a grant from the John A. Hartford Foundation.

GUIDELINE COMMITTEE

Not stated

COMPOSITION OF GROUP THAT AUTHORED THE GUIDELINE

Primary Author: Deanna Gray-Micelli

FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

Not stated

GUIDELINE STATUS

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GUIDELINE AVAILABILITY

Electronic copies: Available from the Hartford Institute for Geriatric Nursing Web site.

Copies of the book *Geriatric Nursing Protocols for Best Practice*, 3rd edition: Available from Springer Publishing Company, 536 Broadway, New York, NY 10012; Phone: (212) 431-4370; Fax: (212) 941-7842; Web: www.springerpub.com.

AVAILABILITY OF COMPANION DOCUMENTS

None available

PATIENT RESOURCES

None available

NGC STATUS

This summary was completed by ECRI on July 30, 2003. The information was verified by the guideline developer on August 25, 2003. This summary was updated by ECRI Institute on June 23, 2008. The updated information was verified by the guideline developer on August 4, 2008.

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