Guideline Summary

Guideline Title

Bibliographic Source(s)

Guideline Status
This is the current release of the guideline.

Scope

Disease/Condition(s)
- Pressure ulcers
- Skin tears

Guideline Category
- Evaluation
- Management
- Prevention
- Risk Assessment
- Treatment

Clinical Specialty
- Family Practice
- Geriatrics
- Nursing

Intended Users
- Advanced Practice Nurses
- Allied Health Personnel
- Health Care Providers
- Hospitals
- Nurses
- Physician Assistants
- Physicians

Guideline Objective(s)
To provide a standard of practice protocol for:
- Prevention of pressure ulcers and early recognition of pressure ulcer development and skin changes
- Prevention of skin tears in older adult clients
- Identification of clients at risk for skin tears
- Fostering healing of skin tears

Target Population
- Older adults with identified intrinsic and/or extrinsic risk factors for pressure ulcers, including:
  - Immobility as seen in bedbound or chair-bound patients and those unable to change positions
  - Undernutrition or malnutrition
  - Incontinence
  - Frail skin
  - Impaired cognitive ability
  - People with darkly pigmented skin
  - Older adults at risk for skin tears

Interventions and Practices Considered

Assessment/Evaluation/Risk Assessment
1. Complete skin assessment
2. Assessment of intrinsic and extrinsic risk factors
3. Use of the Braden Scale risk score
4. Use of the three-group risk assessment tool
5. Classification of skin tears according to the Payne-Martín system

Management/Treatment/Prevention
1. Risk assessment documentation
2. Care issues and interventions: mobilization, skin care, moisture, positioning, use of devices, nutrition, friction and shear
   - Culturally sensitive early assessment
   - Prevention recommendations
   - Skin care
   - Repositioning and support surfaces
   - Nutrition
3. Prevention protocols according to Braden risk scores
4. Prevention of skin tears
   - Safe environment
   - Education: staff or family caregivers
   - Protection from self-injury or injury during routine care
5. Treatment of skin tears

Major Outcomes Considered
- Prevalence of new pressure ulcers
- Prevalence of non-healing pressure ulcers
- Prevalence of skin tears
- Prevalence of non-healing skin tears
Methodology

Methods Used to Collect/Select the 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 Appraisal of Guidelines for Research and Evaluation (AGREE) instrument (described in Chapter 1 of the original guideline document, Evidence-based Geriatric Nursing Protocols for Best Practice, 4th ed.) 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 (i.e., AGREE II) 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 as to its level of evidence, each citation was given a general classification, coded as “Risk,” “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 researcher 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**
The guideline developers reviewed a published cost-analysis.

**Method of Guideline Validation**
External Peer Review
Internal Peer Review

**Description of Method of Guideline Validation**
Not stated
Recommendations

Major Recommendations

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

Pressure Ulcer Prevention

Parameters of Assessment

- Perform complete skin assessment as part of the risk assessment policy and practices (European Pressure Ulcer Advisory Panel & National Pressure Ulcer Advisory Panel [EPUAP & NPUAP], 2009 [Level I]).
- Inspect skin regularly for color changes such as redness in lightly pigmented persons and discoloration in darkly pigmented persons (EPUAP & NPUAP, 2009 [Level I]).
- Look at the skin under any medical device (e.g., catheters, oxygen, airway or ventilator tubing, face masks, braces, collars).
- Palpate skin for changes in temperature (warmth) edema or hardness.
- Ask the patient if they have any areas of pain or discomfort over bony prominences.
- Assess for intrinsic and extrinsic risk factors.
- Braden Scale risk score—18 or less for older adults and persons with darkly pigmented skin.

Nursing Care Strategies and Interventions

Risk Assessment Documentation

- On admission to acute care
- Reassessment intervals whenever the client's condition changes and based on patient care setting
- Based on patient acuity every 24 to 48 hours in general units
- Critically ill patients every 12 hours
- Use a reliable and standardized tool for doing a risk assessment, such as the Braden Scale as part of a comprehensive risk assessment (see Try This & - Issue 5: Predicting Pressure Ulcer Risk; see the "Availability of Companion Documents" field).
- Document risk assessment scores and implement prevention protocols based on overall scores, low subscores, and the comprehensive assessment of other risk factors.
- Assess risk of surgical patients for increased risk of pressure ulcers including the following factors: length of operation, number of hypotensive episodes, and/or low-care temperatures intraoperatively, reduced mobility on first day postoperatively.

General Care Issues and Interventions

- Culturally sensitive early assessment for Stage 1 pressure ulcers in clients with darkly pigmented skin.
- Use a halogen light to look for skin color changes; may be purple hues or other discoloration based on patient's skin tone.
- Compare skin over bony prominences to surrounding skin; may be boggy or stiff, warm or cooler.
- Prevention recommendations:
  - Skin care (EPUAP & NPUAP, 2009 [Level I]):
    - Assess skin regularly.
    - Clean skin at time of soiling; avoid hot water and irritating cleaning agents.
    - Use emollients on dry skin.
    - Do not massage bony prominences as a pressure ulcer prevention strategy as well as do not vigorously rub skin at risk for pressure ulcers.
    - Protect skin from moisture-associated damage (e.g., urinary and/or fecal incontinence, perspiration, wound exudates) by using barrier products.
    - Use lubricants, protective dressings, and proper lifting techniques to avoid skin injury from friction and shear during transferring and turning of clients.
    - Avoid dryness of the patient's skin; use lotion after washing.
    - Avoid hot water and soaps that are drying when bathing older adults. Use body wash and skin protectants (Hunter et al., 2003 [Level III]).
    - Teach patient, caregivers, and staff the prevention protocol.
    - Manage moisture by determining the cause; use absorbent pad that wicks moisture.
    - Protect high-risk areas such as elbows, heels, sacrum, and back of head from friction injury.
    - Repositioning and support surfaces:
      - Keep patients off the redness areas of skin.
      - Repositioning schedules should be individualized based on the patient's condition, care goals, vulnerable skin areas, and type of support surface being used (EPUAP & NPUAP, 2009 [Level I]).
      - Communicate the repositioning schedule to all the patient's caregivers.
      - Raise heels of bed-bound clients off the bed using either pillows or heel-protection devices; do not use donut-type devices (Gloneck et al., 2005 [Level III]).
      - Use a 30 degree tilted side lying position; do not place clients directly in a 90 degree side lying position on their incontinence.
      - Keep head of the bed at lowest height possible.
      - Use transfer and lifting devices (trapeze, bed linen) to move patients rather than dragging them in bed during transfers and position changes.
      - Use pressure-reducing devices (static air, alternating air, gel, or water mattresses) (Gillespie et al., 2006 [Level II]; Hampton & Collins, 2005 [Level III]). Use higher specification foam mattresses rather than standard hospital mattresses for patients at risk for pressure ulcers. If the patient cannot be frequently repositioned manually, use an active support surface (overlay or mattress).
      - Use pressure redistributing mattresses on the operating table for patients identified at risk for developing pressure ulcers.
      - Reposition chair-bound or wheelchair-bound clients every hour. In addition, if client is capable, have him or her do small weight shifts every 15 minutes.
      - Use a pressure-reducing device (not a donut) for chair-bound clients.
      - Keep the patient as active as possible; encourage mobilization.
• Avoid positioning the patient directly on his or her trochanter.
• Avoid using donut-shaped devices.
• Offer a bedpan or urinal in conjunction with turning schedules.
• Manage friction and shear:
  • Elevate the head of the bed no more than 30 degrees.
  • Have the patient use a trapeze to lift self up in bed.
  • Staff should use a lift sheet or mechanical lifting device to move patient.

Nutrition
• Assess nutritional status of patients at risk for pressure ulcers.
  • For at-risk patient, follow nutritional guidelines for hydration (1 mL/kg of fluid per day) and calories (30 to 35 kcal/kg of body weight per day), protein (1.25 to 1.5 g/kg per day). Give high-protein supplements or tube feedings in addition to the usual diet in persons at nutritional and pressure ulcer risk (EPAMP & NPUAP, 2009 [Level II]).
• Manage nutrition.
  • Consult a dietitian and correct nutritional deficiencies by increasing protein and calorie intake and A, C, or E vitamin supplements as needed (Centers for Medicare and Medicaid Services, 2004 [Level V]; Houwing et al., 2003 [Level III]).
• Offer a glass of water during turning schedules to keep patient hydrated.

Interventions Linked to Braden Risk Scores (adapted from Ayello & Braden, 2001 [Level V])

Prevention protocols linked to Braden risk scores are as follows:
• At risk: score of 15 to 18
  • Frequent repositioning turning; use a written schedule.
  • Maximize patient's mobility.
  • Protect patient's heels.
  • Use a pressure-reducing support surface if patient is bed-bound or chair-bound.
• Moderate risk: score of 13 to 14
  • Same as above, but provide foam wedges for 30 degree lateral position.
• High risk: score of 10 to 12
  • Same as above, but add the following:
    • Increase the turning frequency.
    • Do small shifts of position.
  • Very high risk: score of 9 or less
    • Same as above, but use a pressure-relieving surface.
    • Manage moisture, nutrition, and friction and shear.

Follow-up Monitoring of Condition
• Monitor effectiveness of prevention interventions.
• Monitor healing of any existing pressure ulcer.

Skin Tear Prevention

Parameters of Assessment
• Use the three-group risk assessment tool (White, Karam, & Cowell, 1994 [Level IV]) to assess for skin tear risk.
• Use the Payne-Martin (Payne & Martin, 1993 [Level IV]) classification system to assess clients for skin tear risk:
  • Category 1: a skin tear without tissue loss
  • Category 2: a skin tear with partial tissue loss
  • Category 3: a skin tear with complete tissue loss where the epidermal flap is absent

Nursing Care Strategies and Interventions (Baranoski, 2000 [Level V]; Baranoski & Ayello, 2008 [Level V])

Preventing Skin Tears
• Provide a safe environment:
  • Do a risk assessment of older adult patients on admission.
  • Implement prevention protocol for patients identified as at-risk for skin tears.
  • Have patients wear long sleeves or pants to protect their extremities (Bank, 2005 [Level IV]).
  • Have adequate light to reduce the risk of bumping into furniture or equipment.
  • Provide a safe area for wandering.
• Educate staff or family caregivers in the correct way of handling patients to prevent skin tears. Maintain nutrition and hydration:
  • Offer fluids between meals.
  • Use lotion, especially on dry skin on arms and legs, twice daily (Hanson et al., 1991 [Level IV]).
  • Obtain a dietary consultation.
• Protect from self-injury or injury during routine care:
  • Use a lift sheet to move and turn patients.
  • Use transfer techniques that prevent friction or shear.
  • Pad bed rails, wheelchair arms, and leg supports (Bank, 2005 [Level IV]).
  • Support dangling arms and legs with pillows or blankets.
  • Use nonadherent dressings on frail skin.
  • Apply skin protective products (creams, ointments, liquid sealants, etc.) or a nonadherent wound dressing such as hydrogel dressing with gauze as a secondary dressing, silicone, or Telfa-type dressings.
  • If you must use tape, be sure it is made of paper, and remove it gently. In addition, you can apply the tape to hydrocolloid strips placed strategically around the wound rather than taping directly onto fragile surrounding skin around the skin tear.
  • Use gauze wraps, stockinettes, flexible netting, or other wraps to secure dressings rather than tape.
• Use no-rinse soapless bathing products (Birch & Coggins, 2003 [Level IV]; Mason, 1997 [Level IV]).
• Keep skin from becoming dry, apply moisturizer (Bank, 2005 [Level IV]; Hanson et al., 1991 [Level IV]).

Treating Skin Tears (Baranski & Ayello, 2006 [Level VI])
• Gently clean the skin tear with normal saline.
• Let the area air dry or pat dry carefully.
• Approximate the skin tear flap.
• Use cautery if using adherent dressings, as skin damage can occur when removing dressings.
• Consider putting an arrow to indicate the direction of the skin tear on the dressing to maximize any further skin injury during dressing removal.
• Skin sealants, petroleum-based products, and other water-resistant products such as protective barrier ointments or liquid barriers may be used to protect the surrounding skin from wound drainage or dressing, or tape removal trauma.
• Always assess the size of the skin tear; consider doing a wound tracing.
• Document assessment and treatment findings.

Follow-up Monitoring of Condition
Continue to reassess for any new skin tears in older adults.

Definitions:
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


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 (see the "Major Recommendations" field).

Benefits/Harms of Implementing the Guideline Recommendations

Potential Benefits
Pressure Ulcers
Patient
• Skin will remain intact
• Healing of pressure ulcers
Provider/Nurse
• Accurate performance of pressure ulcer risk assessment using standardized tool
• Implementation of pressure ulcer prevention protocols for clients interpreted as at risk for pressure ulcers
• Performance of a skin assessment for early detection of pressure ulcers
Institution
• Reduction in development of new pressure ulcers
• Increased number of risk assessments performed
• Cost-effective prevention protocols developed

Skin Tears
• Absence of skin tears in at-risk clients
• Healing of skin tears that do occur

Potential Harms
Not stated
Implementation of the Guideline

Description of Implementation Strategy
An implementation strategy was not provided.

Implementation Tools
Chart Documentation/Checklists/Forms
Mobile Device Resources
Resources

For information about availability, see the Availability of Companion Documents and Patient Resource fields below.

Institute of Medicine (IOM) National Healthcare Quality Report Categories

IOM Care Need
Getting Better
Staying Healthy

IOM Domain
Effectiveness
Patient-centeredness
Identifying Information and Availability

Bibliographic Source(s)

Adaptation
The section on interventions linked to Braden risk scores was adapted from the following source: Ayello, E. A., & Braden, B. (2001). Why is pressure ulcer risk so important? Nursing, 31(11), 74-79.

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Guideline Developer(s)
Hartford Institute for Geriatric Nursing - Academic Institution

Guideline Developer Comment
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Guideline Committee
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Not stated

Guideline Status
This is the current release of the guideline.


Guideline Availability
Electronic copies: Available from the Hartford Institute for Geriatric Nursing Web site 6.


Availability of Companion Documents
The following are available:
- The Braden Scale. How to Try This video. Available from the Hartford Institute of Geriatric Nursing Web site 6.

The ConsultGenxR app for mobile devices is available from the Hartford Institute for Geriatric Nursing Web site 6.

Patient Resources
None available

NGC Status
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