



## Healthcare

# Pressure Injuries: Prevention and Intervention Strategies for Aging Services Organizations

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## Introduction

Pressure injuries (PI) continue to be a source of litigation in aging services facilities. The focus of this CNA Special Resource is on the skin as a protective organ and how pressure injuries develop. The resource describes components of a comprehensive pressure injury prevention program for aging services providers, provides evidence-based interventions and tools to evaluate the components of the program. This resource is designed to provide aging services organizations with resources and tools to assist with developing programs to protect the skin integrity of residents at risk, as well as offer strategies to reduce the occurrence of pressure injuries and mitigate claims.

## The Science

The importance of maintaining good skin integrity is critical for residents who are compromised by illness and/or age. The skin is the largest organ in the body and provides protection from external environmental influences, thermoregulation, electrolyte balance and sensation. Immobility, moisture, medications, nutritional status, and hydration affect the health of the skin. The development of pressure injuries in this population may occur in as little as 30 minutes of immobility and can hinder functionality, cause pain and lead to serious infections and death. [Research](#) has demonstrated that a substantial number of pressure injuries develop within the first four weeks following admission to a long-term care facility. Therefore, it is imperative to complete comprehensive evaluations/assessments prior to and ongoing during a resident's stay in a Skilled Nursing Facility (SNF) or Assisted Living Facility (ALF).

A pressure injury develops when physiological events and external conditions combine. Interrupted blood flow and tissue damage result in skin breakdown and pressure injuries. These conditions include localized, external pressure combined with injury to tissue. Shear (friction and gravity) also may contribute to the damage caused by pressure. These factors, as well as compromised lymphatic drainage contribute to pressure injury formation.

A resident who does not or is unable to reposition may have interrupted blood flow and tissue damage. Once a pressure injury has developed, infection may occur because of a lack of blood flow, which leads to a deficit of infection-fighting white blood cells. An infection may result in amputation and/or death, if the resident develops sepsis from the infection. Residents who are unable to shift their weight regularly to offload pressure and/or have sensory deficits must be repositioned and turned to prevent a pressure injury from developing.

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Mechanobiology is a rapidly growing field that provides new insight into how injury to cells results in pressure injury and death. Pressure injuries form when the rate of cell and tissue death is greater than the rate of regeneration. Current research may lead to the identification of optimal stimuli to repair these processes. In addition, evidence suggests that the microclimate between the skin and the supporting surface plays a role in pressure injury development. An increase in temperature and humidity weakens the skin. Microclimate conditions have been shown to affect load transfer from the skin to deep tissue. These conditions create implications for [interventions](#) that may decrease the incidence of pressure injury formation. Interventions may include the use of specific types of clothing, bedsheets, wheelchair cushion covers, and/or wound dressings to reduce the mechanical interactions between the skin and support surface, medical device, or clothing.

If appropriate measures are implemented, most pressure injuries are preventable. Prevention should involve identification of residents at risk, conducting ongoing risk evaluations/assessments of all residents, implementation of prevention strategies, evaluating the effectiveness of interventions, collecting data, analyzing factors that contribute to pressure injury development and the selection of appropriate pressure relieving devices.

### Risk Factors

The following risk factors should be recognized when conducting a pressure injury evaluation/assessment:

- History of previous pressure injury
- Sustained moisture
- Poor nutritional intake
- Low albumin
- Chronic disease (diabetes, cardiac disease, low cardiac output, kidney disease, dementia)
- Loss of protective sensation to move
- Immobility on a solid surface

### Populations at Risk

Residents at higher risk in aging services facilities include those receiving palliative and hospice care, residents with obesity, and residents in transit. Residents with additional pre-existing comorbidities or risk factors are also at higher risk for pressure injuries.

#### Palliative and hospice care:

Residents receiving hospice care are at high risk for pressure injury development in any setting, ALF or SNF. Residents at end-of-life experience organ system failure. The skin is the largest organ of the body and is, therefore, subject to failure. Healing may not be a realistic goal for residents receiving end of life care. However, ongoing preventive measures should continue as new pressure injuries may develop.

#### Residents with obesity:

Caring for residents with obesity can be challenging due to their mobility status and other comorbidities. Appropriate equipment may not be readily available, which can lead to additional challenges for caregivers. Shear and friction can increase for residents with obesity. Stress incontinence and diaphoresis can increase the risk of skin maceration.

#### Residents in transit:

Residents transferred between clinical care settings are often at higher risk for developing pressure injuries due to periods of immobility. Examples include transport to the emergency department, office visits, dialysis or other treatments. Skin evaluations/assessments should be conducted prior to transport to another care setting and upon return to the facility.

## Skin Integrity Risk Mitigation Program Components

A comprehensive wound care program includes the following components:

- A process that includes skin evaluation/assessment prior to admission.
- A valid evaluation/assessment tool.
- The use of a pressure injury bundle.
- Proactive, evidence-based care practices and interventions.
- Documentation standards related to pressure injuries.
- Communication practices with the family, provider, and care staff; and
- A quality assurance tracking, trending, and reporting process.

### Admission Process

The admission process for ALFs and SNFs should include an evaluation/assessment conducted by a licensed nurse staff member prior to admitting the resident to the facility. This protocol can be challenging when admitting a resident to an ALF, as there may be minimal opportunity prior to admission to examine the resident's skin. If not possible prior to admission, complete the evaluation as soon as possible after admission to the ALF. Since pressure injuries can develop in a brief period, the presence of a pressure injury or skin integrity issue should be noted prior to admission. Documentation of the findings should be included in the resident healthcare information record. Additionally, the appropriate level of licensed staff member (RN, LPN or LVN) should conduct the evaluation/assessment based upon the state specific nursing scope of practice.

## Documentation and Communication

Pressure injury claims reviewed in the [CNA Aging Services Claim Report: 11th Edition](#) revealed concerns for both ALF and SNF regarding documentation of wound monitoring. The following case scenario provides an example of documentation concerns:

An 80 year old non-ambulatory male with advanced dementia and history of incontinence was admitted to an assisted living memory care unit. The initial skin observations noted dry, flaking skin. No additional documentation was noted for two weeks until an order was written for home healthcare to evaluate and treat wounds. It was unclear in the resident healthcare information record if the home healthcare provider had previously evaluated the wounds. The next documentation was one week later in which a Stage 2 pressure injury was noted to the right buttock. There was no documentation of the potential need to transfer the resident to another facility until 10 days later when a hospital transfer was initiated. At the hospital, the resident was treated for multiple pressure injuries before ultimately being discharged to a rehabilitation facility. Two weeks later, he returned to the hospital where he was diagnosed with sepsis due to a sacral decubitus pressure injury. He died one month later. A lawsuit was instituted against the assisted living facility and ultimately settled for \$340,000.

### Evaluation/assessment Tool

A comprehensive skin evaluation/assessment includes:

- **Skin temperature:** increased skin temperature may be a sign of fever or infection. Symmetrical body parts should be evaluated/assessed.
- **Skin color:** evaluate/assess a resident's skin for pressure injury with adequate lighting. An additional light source should be used during the evaluation/assessment. Residents with darker skin tones are more likely to develop pressure injuries, as pigmentation of the skin may prevent accurate identification of a pressure injury.
- Evaluate/assess the resident for specific risk factors for pressure injuries and document findings. Include evaluating/assessing the resident with a change of condition.

Other elements include the location and size of the wound, surrounding skin condition, injury margins, wound bed color and signs of infection.

The [Braden Scale](#) is an example of a standardized evaluation/assessment tool test that may be used to determine resident risk for pressure injury development. The tool includes resident mobility, sensory perception, skin moisture level, activity, friction, and shear. A score of less than nine is a severe risk for pressure injury, 10-12 is high risk, 13-14 is moderate risk, and 15-18 is mild risk. Pressure injury prevention measures should be implemented for all residents with a score of under 18. Other standardized tools are available such as the [Norton Plus Pressure Injury Scale](#).

Pressure injury evaluation/assessment includes [appropriate staging](#) of the wound with appropriate training for licensed staff who conduct staging of wounds. The four stages of pressure injuries are described below:

- **Stage 1 pressure injury:** The skin is intact with non-blanchable erythema, (erythema does not turn white when pressed). It may be tender and feel warmer or cooler to touch than surrounding skin.
- **Stage 2 pressure injury:** The skin breaks or forms a blister and may have exposed dermis. The wound bed is pink or red and moist.
- **Stage 3 pressure injury:** The wound is open. There is full thickness skin loss. Fat is visible and slough and eschar may be visible. Undermining and tunneling may occur.
- **Stage 4 pressure injury:** The ulcer extends through the fat layer and involves fascia, muscles, tendons, ligaments, cartilage, or bone. Slough and/or eschar may be visible.

- **Unstageable pressure injury:** Full thickness skin and tissue loss is obscured by slough or eschar.
- **Deep tissue pressure injury:** The wound is located below intact skin and looks like a deep bruise.

Kennedy Terminal Ulcers (KTU) may develop due to skin failure. This condition arises when tissue is compromised and is unable to survive because of hypoxia, local mechanical stress, impaired delivery of nutrients and a buildup of metabolic by-products, which occurs at the end of life. The KTUs are described as appearing just before death, purple in color and occurring on bony prominences, butterfly or horseshoe shaped and can appear within hours.

### Evidence-based Interventions

In 2019, best practices for pressure injury prevention and intervention were updated by the European Pressure Ulcer Advisory Panel, National Pressure Injury Advisory Panel and Pan Pacific Pressure Injury Alliance. Below are the recommendations identified to be most effective:

#### Preventive skin care:

- Clean skin as soon as possible after incontinence.
- Avoid vigorously rubbing skin at risk.

#### Nutritional assessment and treatment:

- Conduct nutritional screening for residents at risk of pressure injury.
- Adjust protein intake for residents at risk of pressure injury.
- Provide and encourage adequate hydration.

#### Repositioning:

- Determine repositioning frequency with consideration for the resident's ability to move, overall treatment goals, comfort and pain, skin integrity, general medical condition. Consider the impact of sleep on the healing process when determining resident specific repositioning schedules.
- Reposition to offload all bony prominences and redistribution of pressure.

#### Support surfaces:

- Select a support surface that meets the resident's need for pressure redistribution by considering the resident's level of immobility and inactivity, need to reduce shear, number and severity of pressure injuries, and risk for development of new pressure injuries.

#### Classification of pressure injuries:

- Differentiate pressure injuries from other types of wounds.
- Verify clinical agreement amongst team members for pressure injury wound staging classification.

#### Assessment of pressure injuries:

- Set treatment goals consistent with the goals of the resident.
- Assess and re-assess at an appropriate frequency to ensure adequate monitoring of the progression or healing of the wound.

#### Pain assessment and treatment:

- Use repositioning techniques and equipment focusing upon prevention and management of pressure injury pain.
- Administer pain medication regularly to control pressure injury pain.

#### Quality assurance:

- Use consistent measurement variables when reporting pressure injury prevalence.
- Include structure, process, and outcome quality indicators. Examples include the number of facility acquired pressure injuries, the number of community acquired pressure injuries, the number of healing pressure injuries, and the number of pressure injuries by stage.

The CNA *Carefully Speaking*® publication entitled "Pressure Injuries: Sound Documentation is Key to Defensibility" focuses on documentation of three elements of care: resident evaluation/assessment, service/care planning and team communication. This publication also addresses strategies for communicating with families, providers and care staff to further assist with developing and implementing documentation standards.

## Wound Photography

Digital imaging is a tool that may be used to document wound progression. Electronic health record systems may have an option for a module to capture and store digital wound imaging. For guidance on digital wound imaging, see the CNA *Alert Bulletin*® Photographic Wound Documentation: Ten Guidelines to Help Minimize Digital Imaging Exposures.

### Quality Assurance

Including the monitoring of pressure injuries as an indicator in a quality/performance improvement program will enable a health-care organization to evaluate the effectiveness of pressure injury prevention interventions. Tracking performance will assist with identifying whether care has improved, remained the same or has declined in response to the pressure injury prevention program. Healthcare organizations should identify and monitor process and outcome measures to track performance. Process measures indicate whether each component of care was provided or contra-indicated. Examples of process measures include skin evaluations/assessments completed upon admission. Outcome measures assess the results of healthcare services provided to a resident. Outcome measures include pressure injury incidence and prevalence rates. Data should be collected and analyzed on an ongoing basis to establish baselines and monitor improvement. Modifications to the pressure injury prevention program should be made based upon the analysis of the data collected.

Examples of data collection tools can be found at the following websites:

- <http://www.ahrq.gov/professionals/systems/hospital/pressureulcertoolkit/index.html>
- <http://www.ahrq.gov/professionals/systems/long-term-care/resources/ontime/pruprev/index.html>

If appropriate measures are implemented, **most pressure injuries are preventable**. Prevention should involve **identification of residents at risk**, conducting **ongoing risk evaluations/assessments** of all residents, implementation of **prevention strategies**, evaluating the effectiveness of interventions, **collecting data, analyzing factors** that contribute to pressure injury development and the **selection of appropriate pressure relieving devices**.

## SBAR Tool

Situation, Background, Assessment, Recommendation communication provides a framework for quickly and efficiently communicating key details of potentially dangerous situations to a provider.

### SBAR for Wound and Skin Provider Communication

Date \_\_\_\_\_ Time \_\_\_\_\_

#### S: Situation

I (nurse's name) \_\_\_\_\_ am calling about (resident's name) \_\_\_\_\_

The problem I am calling about is: \_\_\_\_\_

Wound treatment     Wound infection     New wound     Skin problem     Consultation recommendation

Other \_\_\_\_\_

Vital signs: Blood pressure \_\_\_\_\_ Respiration \_\_\_\_\_ Pulse \_\_\_\_\_ Temperature \_\_\_\_\_

#### B: Background-Wound Information

Type:  Pressure     Venous     Diabetic     Arterial     Surgical     Other \_\_\_\_\_

Location: \_\_\_\_\_ Measurements: Length \_\_\_\_\_ Width \_\_\_\_\_ Depth \_\_\_\_\_

Surrounding skin condition: Temperature \_\_\_\_\_ Color \_\_\_\_\_ Erythema \_\_\_\_\_

Injury margins: Rolled \_\_\_\_\_ Smooth \_\_\_\_\_

Wound bed: Color \_\_\_\_\_ Moisture \_\_\_\_\_ Granulation \_\_\_\_\_ Eschar \_\_\_\_\_ Slough \_\_\_\_\_

Signs of infection: Color \_\_\_\_\_ Drainage \_\_\_\_\_ Odor \_\_\_\_\_ Other \_\_\_\_\_

Stage: 1 \_\_\_\_\_ 2 \_\_\_\_\_ 3 \_\_\_\_\_ 4 \_\_\_\_\_ Unstageable \_\_\_\_\_ Deep tissue \_\_\_\_\_

Treatment: \_\_\_\_\_

Lab results: \_\_\_\_\_

#### A: Assessment

The wound is:  Healing     Worsening     Staying the same

The problem seems to be: \_\_\_\_\_

#### R: Recommendation

Change treatment: \_\_\_\_\_ Have resident seen by you: \_\_\_\_\_

Obtains lab: \_\_\_\_\_ Transfer the resident to: \_\_\_\_\_

Other: \_\_\_\_\_

Notes: \_\_\_\_\_

Name/Signature: \_\_\_\_\_

## Pressure Injury Program Audit Tool

The following tool may be utilized to collect information concerning an organization’s pressure injury prevention program. It includes auditing documentation in resident healthcare information records and care plans, reviewing policies and procedures and evaluating quality and performance improvement processes. Potential actions include providing staff education regarding documentation in resident healthcare information records, updating current policies and procedures and evaluating quality and performance improvement data and results.

Risk Control Criterion	Present? Yes/No	Comments
An educational program for the prevention of pressure injuries is part of mandatory staff orientation and training. The educational plan elements include:		
• The etiology and risk factors that contribute to pressure injury development.		
• Use of risk assessment tools. Examples include the following: Braden and Norton Pressure Sore Risk Assessment Scale.		
• Skin evaluations/assessments.		
• Categorization and staging of pressure injuries.		
• Selection and/or use of pressure management devices and surfaces (competency demonstrated).		
• Individualized skin care program.		
• Positioning/transferring techniques to decrease risk of shear/friction (competency demonstrated).		
• Competency skills checks.		
• Accurate and complete documentation in the resident healthcare information record.		
• Roles and responsibilities of care team members, and the multidisciplinary approach to prevention of pressure injuries.		
• Resident/family education.		
An accepted and valid screening tool is used to evaluate/assess pressure injury risk, with results documented in the resident healthcare information record and care/service plan.		
Residents at high risk for pressure injuries or a previous history of pressure injuries are identified upon admission using an accepted and valid risk evaluation/assessment tool.		
Pressure injury risk evaluations/assessments are documented upon admission by qualified staff.		
Repeat pressure injury risk evaluations/assessments are conducted weekly for four weeks, with change of condition, readmission and, at a minimum, on a quarterly basis.		
Residents and family members are asked about previous pressure injuries.		
Residents are examined for evidence of confusion, disorientation, memory lapses or other signs of impaired cognitive status.		

<b>Risk Control Criterion (continued)</b>	<b>Present? Yes/No</b>	<b>Comments</b>
A history of acute illness (e.g., strokes, seizures, orthostatic hypotension, urinary tract infections or febrile states) is obtained and documented.		
Chronic degenerative illnesses, including arthritis, dementia, and diabetes are documented.		
Residents on the following high risk medications are monitored for changes in skin integrity:		
• antibiotics		
• anticoagulants		
• anti-rheumatoid arthritis drugs		
• colchicine		
• nicotine		
• nonsteroidal anti-inflammatory drugs		
• topical corticosteroids		
• vasoconstrictors		
• antineoplastic, antiplatelet, and immunosuppressant drugs		
The skin of residents at risk of pressure injuries is moisturized with one ounce of quality moisturizer twice daily.		
Residents at risk for pressure injury from malnutrition are referred to a dietitian/nutritionist, and the referral is documented in the resident healthcare information record.		
Nutritional recommendations and restrictions are noted in the resident's healthcare information record.		
Lab requests/reports/cultures of residents with pressure injuries/skin issues are tracked and monitored with notification and follow-up to a provider.		
Pressure injury incidents are tracked and trended by quality/clinical staff so that processes may be evaluated and continuously enhanced.		
Pressure injury prevention measures and equipment, e.g., appropriate mattress, dynamic support surface, pillow or foam wedges, adequate nutritional support, etc., are in use, evaluated for effectiveness and documented.		
Facility policies and procedures are consistent with current practice in the facility, including wound photography.		



<b>Resident Healthcare Information Record Documentation Audit</b>	<b>Present? Yes/No</b>	<b>Comments</b>
Orders for wound care are consistently documented and followed.		
Pressure injury clinical interventions are documented in the resident's healthcare information record.		
Documentation reflects adherence to ongoing pressure injury assessment and interventions.		
Service/care planning notes are updated when there are changes in the resident's condition or interventions.		
Documented interventions are appropriate and timely.		
Effectiveness or ineffectiveness of interventions is documented in the resident healthcare information record.		
The resident healthcare information record does not reference the completion of an incident report, storage of the incident report or investigation.		
All provider and family notifications, orders and communications are documented, including transfers to other levels of care.		
Provider documentation includes sufficient rationale to reflect wounds that are unavoidable.		
Residents with non-healing wounds are referred to the appropriate specialist in a timely manner. The exception pertains to residents receiving end of life care.		
A licensed nurse validates wound staging when wound care is provided by an outside agency in accordance with healthcare agency rules, state licensing requirements and regulations.		
Documentation by the wound care provider/primary care provider includes assessment of the wound, treatment ordered, and resident's response to that treatment.		
If the resident does not respond to the treatment, or the skin condition worsens under the current treatment regimen, the course of treatment is re-evaluated (this may not be applicable when a resident is receiving end of life care).		

This tool serves as a reference for organizations seeking to evaluate risk exposures associated with pressure injuries. The content is not intended to represent a comprehensive listing of all actions needed to address the subject matter, but rather is a means of initiating internal discussion and self-examination. Your clinical procedures and risks may be different from those addressed herein, and you may wish to modify the tool to suit your individual practice and patient needs. The information contained herein is not intended to establish any standard of care, serve as professional advice or address the circumstances of any specific entity. These statements do not constitute a risk management directive from CNA. No organization or individual should act upon this information without appropriate professional advice, including advice of legal counsel, given after a thorough examination of the individual situation, encompassing a review of relevant facts, laws and regulations. CNA assumes no responsibility for the consequences of the use or nonuse of this information.

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