Updated Information on Tools and Devices to Monitor for Prevention and Treatment of Pressure Injury

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- Understand new definitions & terminology from the National Pressure Ulcer Advisory Panel (NPUAP).
- Compare resident risk factors for pressure injury development by use of a validated tool (e.g. Braden Scale, and Norton Scale).
- Explain the benefits of individualized monitoring before development of a pressure injury and after development of a pressure injury.
- Describe how to determine whether your individualized plan of care is working or needs to be re-evaluated.
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- Each year, more than **2.5 million people in the United States develop pressure ulcers**. These skin lesions bring pain, associated risk for serious infection, and increased health care utilization.
April 2016 - National Pressure Ulcer Advisory Panel (NPUAP) announces a change in terminology from pressure ulcer to pressure injury and updates the stages of pressure injury.

The change in terminology more accurately describes pressure injuries to both intact and ulcerated skin. In the previous staging system, Stage 1 and Deep Tissue Injury described injured intact skin, while the other stages described open ulcers. This led to confusion because the definitions for each of the stages referred to the injuries as “pressure ulcers.”
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- In addition to the change in terminology, **Arabic numbers are now used in the names of the stages instead of Roman numerals**. The term “suspected” has been removed from the Deep Tissue Injury diagnostic label. Additional pressure injury definitions agreed upon at the meeting included Medical Device Related Pressure Injury and Mucosal Membrane Pressure Injury.
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- **REMEMBER** - CMS deficiencies verbiage and MDS verbiage have not yet changed, but it will only be a short time before the information in the deficiencies (TAGS) and the MDS form changes.
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Are you preparing?
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- **Updates/Changes in NPUAP guidelines**
  - **Pressure Injury:**
    - A pressure injury is localized damage to the skin and/or underlying soft tissue.
    - Typically appears over a bony prominence, or is related to a medical or other device.
    - Presents as either intact skin or as an open ulcer and may be painful.
    - Occurs as a result of intense and/or prolonged pressure or pressure in combination with shear.
    - Tolerance of soft tissue for pressure and shear may also be affected by microclimate, nutrition, perfusion, co-morbidities and condition of the soft tissue.
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- **Stage 1 Pressure Injury: Non-blanchable erythema of intact skin.**
  
  • Intact skin with a localized area of non-blanchable erythema, which may appear differently in darkly pigmented skin. Presence of blanchable erythema or changes in sensation, temperature, or firmness may precede visual changes. Color changes do not include purple or maroon discoloration; these may indicate deep tissue pressure injury.
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- **Stage 2 Pressure Injury**: Partial-thickness skin loss with exposed dermis.
  - Partial-thickness loss of skin with exposed dermis.
  - Wound bed is viable, pink or red, moist, and may also present as an intact or ruptured serum-filled blister.
  - Adipose (fat) is not visible and deeper tissues are not visible.
  - Granulation tissue, slough and eschar not present.
Stage 2 Pressure Injury: Partial-thickness skin loss with exposed dermis.

• Commonly result from adverse microclimate and shear in the skin over the pelvis and shear in the heel.
• This stage should not be used to describe Moisture Associated Skin Damage (MASD), including: Incontinence Associated Dermatitis (IAD); Intertriginous Dermatitis (ITD); Medical Adhesive Related Skin Injury (MARSRI); or traumatic wounds (skin tears, burns, abrasions).
Stage 3 Pressure Injury: Full-thickness skin loss.

- Full-thickness loss of skin, in which adipose (fat) is visible in the ulcer; granulation tissue and epibole (rolled wound edges) also often present.
- Slough and/or eschar may be visible.
- Depth of tissue damage varies by anatomical location; areas of significant adiposity can develop deep wounds.
Stage 3 Pressure Injury: Full-thickness skin loss.
- Undermining and tunneling may occur.
- Fascia, muscle, tendon, ligament, cartilage and/or bone are not exposed.
- Categorized as an Unstageable Pressure Injury if the extent of tissue loss is obscured by slough or eschar.
Stage 4 Pressure Injury: Full-thickness skin and tissue loss.

- Full-thickness skin and tissue loss with exposed or directly palpable fascia, muscle, tendon, ligament, cartilage or bone in the ulcer.
- Slough and/or eschar may be visible.
- Epibole (rolled edges), undermining and/or tunneling often occurs.
- Depth varies by anatomical location.
- Categorized as an Unstageable Pressure Injury if the extent of tissue loss is obscured by slough or eschar.
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- Unstageable Pressure Injury: Obscured full-thickness skin and tissue loss.
  - Full-thickness skin and tissue loss in which the extent of tissue damage within the ulcer cannot be confirmed because it is obscured by slough or eschar.
  - Once slough or eschar is removed, a Stage 3 or Stage 4 pressure injury will be revealed.
  - Note: Stable eschar (i.e. dry, adherent, intact without erythema or fluctuance) on the heel or ischemic limb should not be softened or removed.
Deep Tissue Pressure Injury: Persistent non-blanchable deep red, maroon or purple discoloration.

- Intact or non-intact skin with localized area of persistent non-blanchable deep red, maroon, purple discoloration or epidermal separation revealing a dark wound bed or blood filled blister.
- Pain and temperature change often precede skin color changes.
Deep Tissue Pressure Injury: Persistent non-blanchable deep red, maroon or purple discoloration.

- Discoloration may appear differently in darkly pigmented skin.
- This injury results from intense and/or prolonged pressure and shear forces at the bone-muscle interface.
- Wound may evolve rapidly, revealing the actual extent of tissue injury.
- May resolve without tissue loss.
Deep Tissue Pressure Injury: Persistent non-blanchable deep red, maroon or purple discoloration.

- If necrotic tissue, subcutaneous tissue, granulation tissue, fascia, muscle or other underlying structures are visible, this indicates a full thickness pressure injury (Unstageable, Stage 3 or Stage 4).
- Do not use DTPI to describe vascular, traumatic, neuropathic, or dermatologic conditions.
Some additional pressure injury definitions. **Note:** not yet approved by CMS.
Medical Device Related Pressure Injury

- This term describes an etiology.
- Medical Device Related Pressure Injuries result from the use of devices applied for diagnostic or therapeutic purposes.
- Resulting pressure injury generally conforms to the pattern or shape of the device.
- Injury should be staged using the staging system.
Mucosal Membrane Pressure Injury

- Mucosal membrane pressure injury is found on mucous membranes with application of a medical device at the injury location.
- Due to tissue anatomy these injuries cannot be staged.
Federal regulations for nursing homes are commonly referred to as F-tags. There are approximately 171 F-tags. F-tags are broken down into 15 categories; “Quality of Care” is one such category; it is made up of 21 F-tags.
Five “Quality of Care” F-tags address pressure ulcers and nutrition:

1. 314-Pressure Ulcers
2. 315-Incontinence
3. 322-Naso Gastric tubes
4. 325-Nutrition
5. 327-Hydration
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These five F-tags are each divided into nine sections:

1. Definition
2. Overview
3. Assessment
4. Interventions
5. Investigative Protocols
6. Determination of Compliance
7. Deficiency Citations
8. MDS Section
9. CMS References
F 314 Pressure ulcers  
TAG F 314 (§483.25 Quality of Care)

- Each resident must receive (and the facility must provide) the necessary care and services to attain or maintain the highest practicable physical, mental, and psycho-social well-being, in accordance with the comprehensive assessment and plan of care.
Based on the Comprehensive Assessment of a resident, the facility must ensure that:

1. A resident who enters the facility without pressure sores does not develop pressure sores (unless the individual’s clinical condition demonstrates that they were unavoidable); **and**: 

2. A resident having pressure sores receives necessary treatment and services to promote healing, prevent infection and prevent new sores from developing.

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What does “Highest Practicable” well-being mean? The NPUAP defines as:

- The highest level of functioning and well-being possible, limited only by the individual’s presenting functional status and potential for improvement or reduced rate of functional decline.
- Highest practicable is determined through a comprehensive resident assessment to competently and thoroughly addressing the physical, mental or psychosocial needs of the individual.
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- What are the **best practices in pressure ulcer prevention** that we want to use?
- Once you have determined that you are ready for change, the Implementation Team and Unit-Based Teams should demonstrate a clear understanding of where they are headed in terms of implementing best practices.
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- **A clinical pathway** is a structured multi-disciplinary plan of care designed to support the implementation of clinical guidelines.
- It provides a guide for each step in the management of a patient and it reduces the possibility that busy clinicians will forget or overlook some important component of evidence-based preventive care.
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People involved in the quality improvement effort need to agree on what it is that they are trying to do. Consensus should be reached on the following questions:

- What “bundle“ of best practices do we use?
- How should a comprehensive skin assessment be conducted?
- How should a standardized pressure ulcer risk assessment be conducted? How frequently?
- How should pressure ulcer care planning based on identified risk be used?
- What items should be in our bundle?
- What additional resources are available to identify best practices for pressure ulcer prevention?
In describing best practices for pressure ulcer prevention, it is necessary to recognize at the outset that implementing these best practices at the bedside is an extremely complex task. Some of the factors that make pressure ulcer prevention so difficult include:

1. It is a **multi-disciplinary** task: Nurses, physicians, dieticians, physical therapists, patients and families are among those who must be invested.
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2. It is **multi-dimensional**: Many different discrete areas must be mastered.

3. It needs to be **customized**: Each patient is different, so care must address their unique needs.

4. It is also highly **routinized**: The same tasks need to be performed over and over, often many times in a single day without failure.
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5. It is not perceived to be **glamorous**: The skin as an organ, and patient need for assessment and care, does not enjoy the high status and importance attached other clinical areas.
Pressure ulcer bundles incorporate three critical components in preventing pressure ulcers:

- Comprehensive skin assessment.
- Standardized pressure ulcer risk assessment.
- Care planning and implementation to address areas of risk.
Back to the Basics

- Comprehensive skin assessment.
- Everyone tends thinks they know how to do a comprehensive skin assessment - but do they really?
- Just as every resident is different, clinical personnel are also all different and complete tasks differently.
- A training on the basics of a comprehensive skin assessment helps ensure that all clinical personal are completing the assessment correctly—*not just in the timeframes we set down for them*.
How is a comprehensive skin assessment performed?

- A comprehensive skin assessment consists of several distinct components.
- Two of these components, however, are particularly key: **Inspection** and **Palpation**.
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- To begin the process, the clinician needs to explain to the resident and family that they will be thoroughly examining all skin surfaces and provide a private place for the examination.
- The clinician must wash hands both before and after the examination.
- Use gloves to help prevent the spread of resistant organisms.
Recognize that there is no consensus as to what constitutes the minimum effective level of examination for a comprehensive skin assessment.

This lack of consensus is where discrepancies arise in skin assessment.

Continuous training and education of staff is critical to ensure all staff are conducting comprehensive skin assessments correctly.
Standard skin assessment practice includes assessing the following five parameters:

1. Temperature
2. Color
3. Moisture level
4. Turgor
5. Skin integrity (skin intact or presence of open areas, rashes, etc.)
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**REMEMBER!** In order to assess these 5 critical areas the clinician has to visually and by hand touch all parts of a resident to ensure accurate skin assessment.
Elements of a Comprehensive Skin Assessment

1. Skin Temperature

- Most clinicians use the back rather than the palm of their hand to assess the temperature of a patient's skin.

- Remember that elevated skin temperature can be a sign of fever or impending skin problems, such as a Stage I pressure ulcer or a diabetic foot about to ulcerate.

- Touch the skin to evaluate whether it is warm or cool.

- Compare symmetrical body parts for differences in skin temperature.
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2. Skin Color

- Ensure that there is adequate light.
- Use an additional light source such as a penlight to illuminate hard to see skin areas such as the heels or sacrum.
- Know the person's normal skin tone so that you can evaluate changes.
- Look for differences in color between comparable body parts, such as left and right leg.
2. **Skin Color**

- Depress any discolored areas to see if they are blanchable or non-blanchable.
- Look for redness or darker skin tone (indicative of infection or increased pressure).
- Look for paleness, flushing, or cyanosis.
- Remember that changes in coloration may be particularly difficult to see in darkly pigmented skin.

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3. Skin Moisture

- Touch the skin to see if the skin is wet or dry, or has the right balance of moisture.
- Remember that dry skin, or xerosis, may also appear scaly or lighter in color.
- Check if the skin is oily.
3. **Skin Moisture**

- Note that skin macerated from too much moisture may also appear lighter or feel soft or boggy.
- Look for water droplets on the skin. Is the skin clammy?
- Determine whether these changes are localized or generalized.
4. **Skin Turgor**

- To assess skin turgor, take your fingers and "pinch" the skin near the clavicle or the forearm such that the skin lifts up from the underlying structure. Then let the skin go.
- If the skin quickly returns to place, this is a normal skin turgor finding.
5. **Skin Integrity**

- Look to see if the skin is intact without any cracks or openings.
- Determine whether the skin is thick or thin.
- Identify signs of pruritus, such as excoriations from scratching.
- Note whether lesions are raised or flat.
More than 100 pressure ulcer risk factors have been identified in the literature.

Some physiological (intrinsic) and non-physiological (extrinsic) risk factors that may place adults at risk for pressure ulcer development include: diabetes mellitus; peripheral vascular disease; cerebral vascular accident; sepsis; and hypotension.

While many pressure ulcer risk assessment tools exist, two are considered the “Gold Standard” in LTC, the Braden scale and the Norton scale.
The Braden Scale for Predicting Pressure Sore Risk

**Background:** This tool can be used to identify patients at-risk for pressure ulcers. The Braden Scale was developed by Barbara Braden and Nancy Bergstrom in 1988 and has since been used widely in the general adult patient population.

- The scale consists of six sub-scales and the total scores range from 6-23. A lower Braden score indicates higher levels of risk for pressure ulcer development.
- As a rule, a score of 18 or lower indicates at-risk status.
Instructions: Complete the form by scoring each of the first four items from 1-4, (1 for low level of functioning and 4 for highest level of functioning)

For last risk factor, score from 1-3.

Use: Use this tool in conjunction with clinical assessment to determine if a patient is at risk for developing pressure ulcers and plan the care accordingly.

In addition to the overall score, abnormal scores on any of the subscales should be addressed in the care plan.
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Reference:


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Norton Scale

- **Background:** This tool can be used to identify patients at-risk for pressure ulcers. The Norton Scale was developed in the 1960s and is widely used to assess the risk for pressure ulcer in adult patients. The five subscale scores of the Norton Scale are added together for a total score that ranges from 5-20. A lower Norton score indicates higher levels of risk for pressure ulcer development. Generally, a score of 14 or less indicates at-risk status.
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- **Instructions:** Complete the form by scoring each item from 1-4. Enter 1 for low level of functioning, and 4 for highest level functioning.
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- **Use**: Use this tool in conjunction with clinical assessment to determine if a patient is at risk for developing pressure ulcers.
The accuracy of a risk assessment scale is entirely dependent on the person completing it. Experience has shown tremendous variability among staff even when evaluating the same patient. Therefore, training on how to use the scale is critical to ensuring consistency.
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1. Assessing Staff Education and Training

A. Does your facility have initial and ongoing education on pressure ulcer prevention and management for both nursing and non-nursing staff?

___ No. If no, this is an area for improvement.

___ This is an area we are working on.

___ Yes.
B. Does your facility's education program for pressure ulcer prevention and management include the following components?

1. Are new staff assessed for their need for education on pressure ulcer prevention and management?
2. Are current staff provided with ongoing education on the principles of pressure ulcer prevention and management?
3. Does staff training provide discipline-specific education for pressure ulcer prevention and management?
4. Is there a designated clinical expert available at the facility to answer questions from all staff about pressure ulcer prevention and management?
B. Does your facility's education program for pressure ulcer prevention and management include the following components?

5. Is the education provided at the appropriate level for the learner (e.g., CNA vs. RN?)
6. Does the education provided address risk assessment tools and procedures?
7. Does the education include staff training on documentation methods related to pressure ulcers (e.g., location, stage, size, depth, appearance, exudates, current treatment, effect on activities of daily living, pressure redistributing devices used, nutritional support)?
Preventing pressure ulcers can be nursing intensive. One recent study suggested that there was no correlation between increasing the nurse-to-patient ratio and the overall incidence of pressure ulcers. It should be noted that this particular study was limited by the fact that the researchers could not at all times affirm compliance with ratios per shift and per unit. Given that the cost of treatment has been estimated as 2.5 times that of prevention, implementing a pressure ulcer prevention program remains essential—while also working to ensure all components of the program are followed.
The use of any particular intervention is based on the strength of the evidence provided. Examples:

- What has worked for that resident in the past?
- What is the resident willing to do to help prevent pressure ulcers?
- Has the resident been educated about pressure ulcers?
We have now completed a comprehensive skin assessment and a validated risk assessment (Braden, Norton).

The assessment process drives the development of individualized interventions and goals to prevent or heal pressure ulcers (and assists in the care planning process).
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- The care plan should define the specific steps necessary to meet those goals.
- In order to evaluate the effectiveness of the care provided, and to prompt changes in treatment as needed, it should also define specific guidelines for reassessment.
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Care Plan Components: A current care plan for actual or “at-risk of” pressure ulcers includes:

- Measurable goals and time frames
- Pressure ulcer interventions focused on individual risk factors, prevention, and/or effective treatment strategies including:
  - Education provided to individuals and/or family/surrogates
  - Individual’s baseline information (including risk factors)
  - Specific treatment timelines for pressure ulcer care
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Care Plan Components:

- Stated frequency of pressure ulcer risk assessments and/or reevaluation of existing pressure ulcers.
- Process to notify physician of changes in the pressure ulcer risk assessment and/or any changes noted during assessments of existing pressure ulcers.
- Identification of risk factors.
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Care Plan Components:

- Process to review and update the care plan based on changes in condition (or to the assessment process).
- Process for an interdisciplinary team (IDT) to develop the care plan.
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Outcomes:
- Individualized interventions identified in the care plan are implemented.
- Effectiveness of the individualized interventions is monitored and evaluated.

REMEMBER: PDSA Plan, Do, Study, Act
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- We could go on forever about prevention and treatment of Pressure ulcers by utilizing different risk tools and devices.
- That said, today’s most important "take away" is this: Yes! You do need to have a pressure ulcer prevention and treatment system in place, but don’t get so caught up in the system that you fail to take into account individual differences. We want as much consistency as possible in the program, but it is also important to look at the individual also.
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References:


- Public Policy Committee and the Wound Subcommittee

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- Centers of Medicare and Medicaid
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- [https://www2.rcn.org.uk/__data/assets/pdf_file/0003/78501/001252.pdf](https://www2.rcn.org.uk/__data/assets/pdf_file/0003/78501/001252.pdf)

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Thank You and have a Wonderful Day!

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