

Wound Classification

Presented by

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Agency for Healthcare Research and Quality

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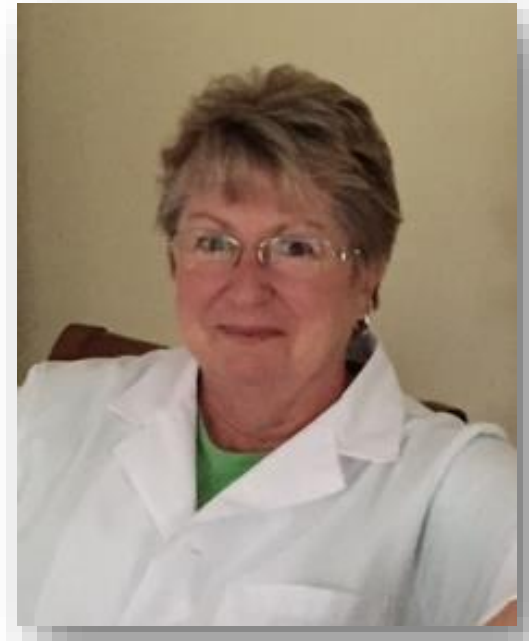
Welcome!

Thank you for joining this webinar about how to assess and measure a wound.



A Little About Myself...

- Associate professor at Montana State University
- Executive editor of the *Journal of the World Council of Enterostomal Therapists* (JWCET) and WCET International Ostomy Guidelines (2014)
- Editorial board member of *Ostomy Wound Management* and *Advances in Skin and Wound Care*
- Legal consultant
- Former NPUAP board member



Today We Will Talk About

- How to assess a wound
- How to measure a wound

Please make a note of your questions. Your Quality Improvement (QI) Specialists will follow up with you after this webinar to address them.

Assessing and Measuring Wounds

- You completed a skin assessment and found a wound.
- Now you need to determine what type of wound you found.
- If it is a pressure ulcer, you need to determine the stage.

Assessing and Measuring Wounds

This is important because—

- Each type of wound has a different etiology.
- Treatment may be very different.

However—

- Not all wounds are clear cut.
- The cause may be multifactorial.

Types of Wounds

- Vascular (arterial, venous, and mixed)
- Neuropathic (diabetic)
- Moisture-associated dermatitis
- Skin tear
- Pressure ulcer

Mixed Etiologies

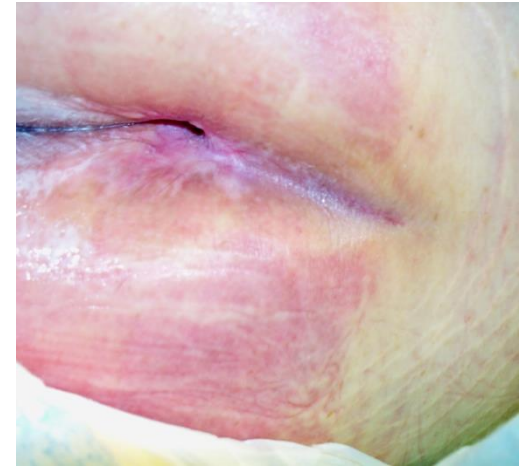
Many wounds have mixed etiologies.

- There may be both venous and arterial insufficiency.
- There may be diabetes and pressure characteristics.



Moisture-Associated Skin Damage

- Also called perineal dermatitis, diaper rash, incontinence-associated dermatitis (often confused with pressure ulcers)
- An inflammation of the skin in the perineal area, on and between the buttocks, into the skin folds, and down the inner thighs
- Scaling of the skin with papule and vesicle formation:
 - These may open, with “weeping” of the skin, which exacerbates skin damage.
 - Skin damage is shallow or superficial and edges are irregular or diffuse.
 - Maceration or a whitening of skin may also be observed.
- Results when epidermis is damaged and bacteria are then able to penetrate beneath the surface

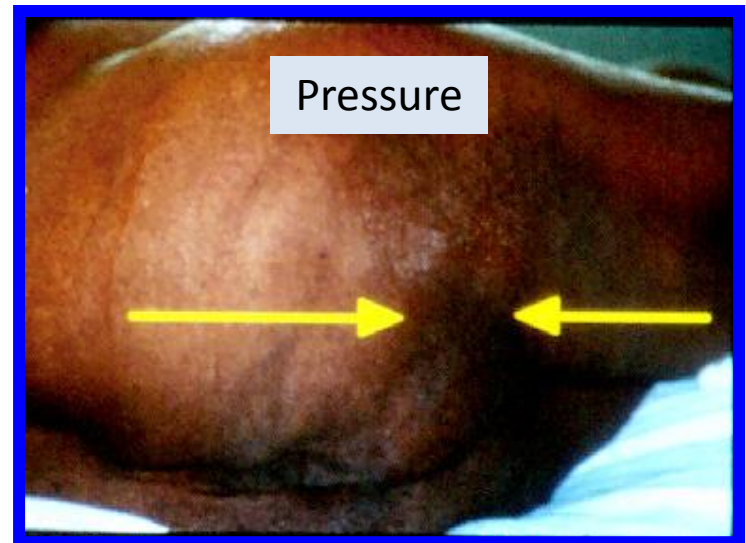


Moisture-Associated Skin Damage

Determine what it is.

Is it pressure or moisture?

- May be difficult to distinguish between moisture-associated skin damage and pressure ulcer.
- Unlike moisture-associated skin damage, a pressure ulcer usually has distinct edges.



Pressure Ulcers From Other Sources of Pressure

- Boots, boot straps, oxygen/endotracheal tubes, stockings, and other devices can also lead to pressure-induced ischemia on the skin.
- These are counted separately for incidence and prevalence.



2009 Pressure Ulcer Definition

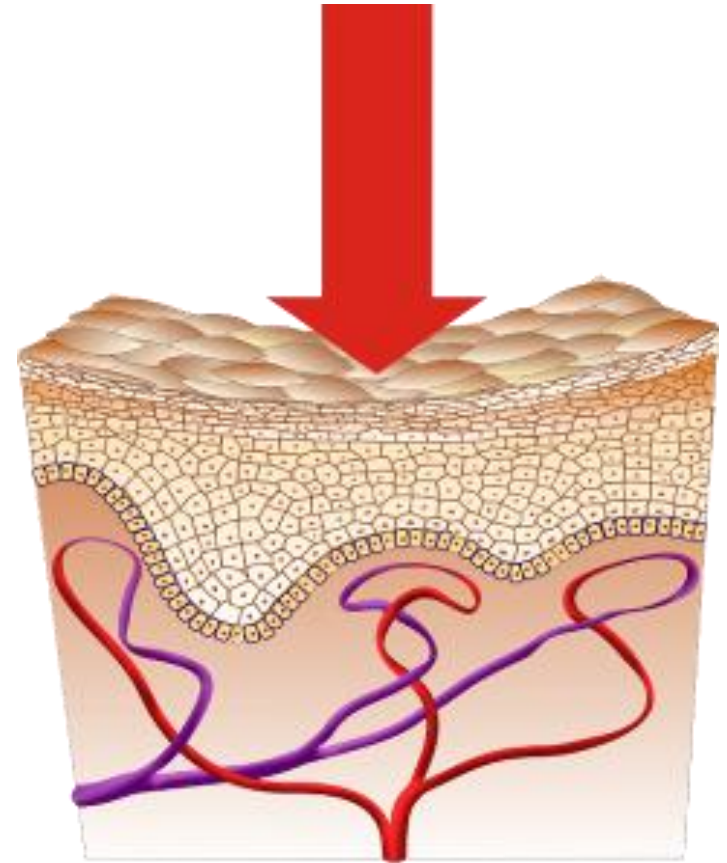
“... localized **injury** to the skin and/or underlying tissue usually over a **bony prominence**, as a result of **pressure**, or pressure in combination with **shear**.”



NPUAP/EPUAP Pressure Ulcer Prevention and Treatment Guidelines.

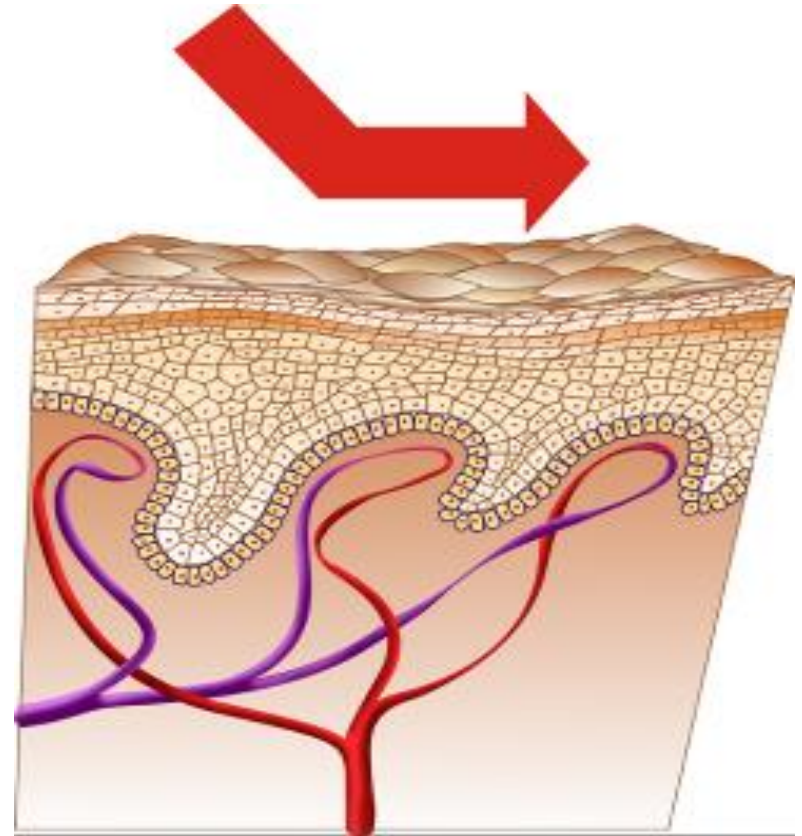
Pressure

- Perpendicular force—
 - Compresses tissue
 - Restricts blood flow
 - Causes ischemia and necrosis
 - Ruptures cells and vessels
 - Causes tissue deformation



Shear

- Force parallel to the skin—
 - Stretches and distorts internal tissue
 - May cause occlusion of vessels perpendicular to skin surface
- Leads to ischemia and necrosis



Pressure Ulcer Staging Concepts

- NPUAP classification system:
 - 6 stages or categories:
 - Stage I
 - Stage II
 - Stage III
 - Stage IV
 - Unstageable
 - Suspected deep tissue injury (sDTI)
- Base staging on the type of tissue visualized or palpated.
- Do not reverse stage when documenting a healing pressure ulcer.

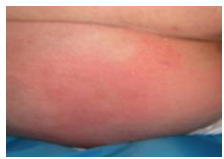
Staging is based on the type of tissue visualized or palpated

QUICK GUIDE FOR PRESSURE ULCER STAGING

Partial thickness ulcer

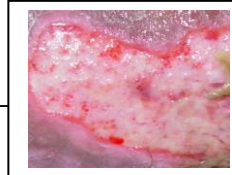
Stage I

Intact skin with non-blanchable redness of a localized area usually over a bony prominence



Stage II

Loss of dermis presenting as a shallow open ulcer with a red-pink wound bed or open/ruptured serum-filled blister.



Suspected deep tissue injury

Purple or maroon localized area of discolored intact skin or blood filled blister due to damage of underlying soft tissue from pressure and/or shear.



Unstageable

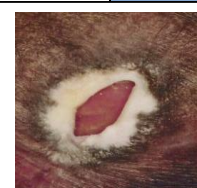
Base of wound is covered by dead tissue



Full thickness ulcer

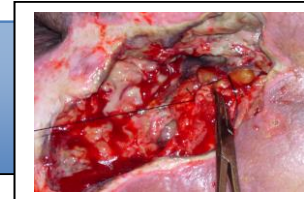
Stage III

Subcutaneous fat may be visible but bone, tendon, or muscle are not exposed.



Stage IV

Exposed bone, tendon or muscle.



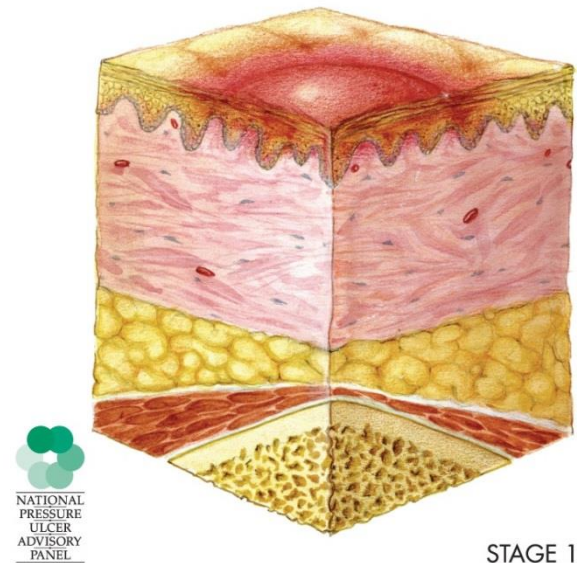
Stage I

Definition

- Intact skin with nonblanchable redness of a localized area, usually over a bony prominence.
 - Darkly pigmented skin may not have visible blanching; its color may differ from the surrounding area.

Description

- Area may be more painful, firm, or soft, or warmer or cooler than adjacent tissue.
- Stage I may be difficult to detect in persons with dark skin tones.



Source: National Pressure Ulcer Advisory Panel

Stage II

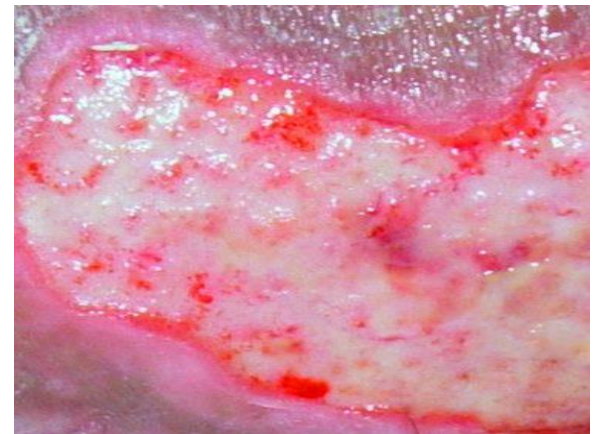
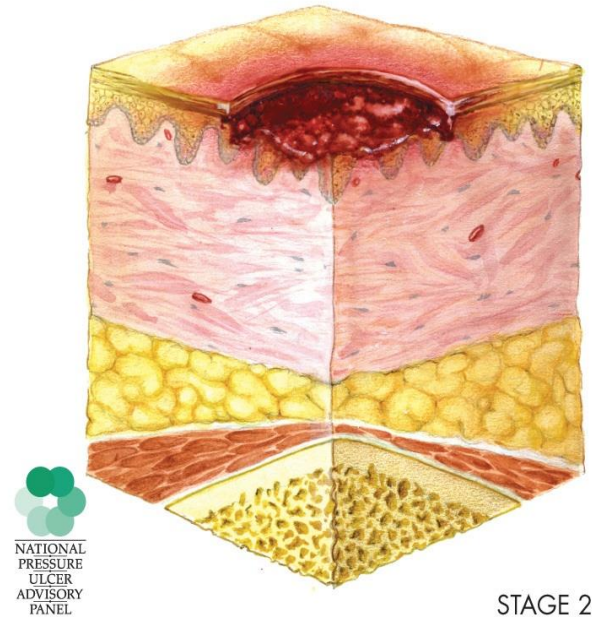
Definition

- **Partial thickness loss of dermis** presenting as a **shallow open** ulcer with a **red/pink** wound bed, **without slough**.
- **May** also present as an intact or open/ruptured serum-filled or sero-sanguineous filled **blister**.

Description

- Presents as a shiny or dry shallow ulcer **without slough or bruising**.
- This stage should not be used to describe skin tears, tape burns, incontinence-associated dermatitis, maceration, or excoriation.

Source: National Pressure Ulcer Advisory Panel



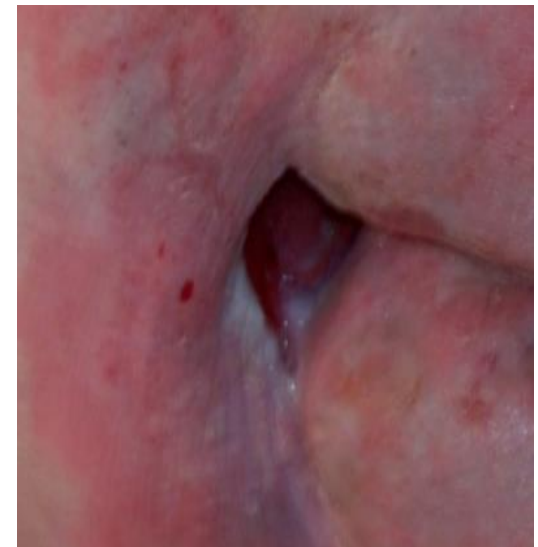
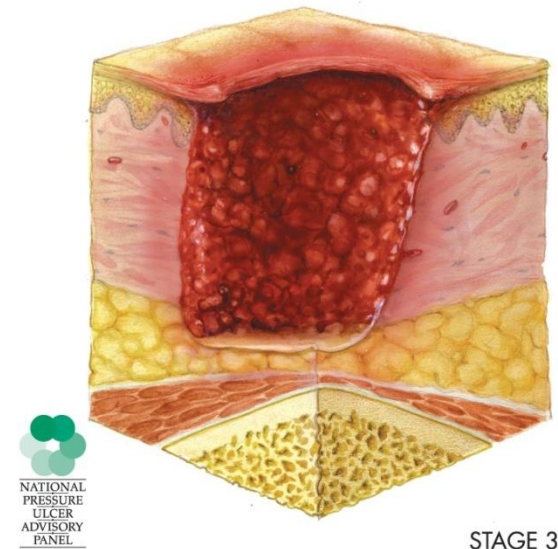
Stage III

Definition

- **Full thickness** tissue loss. Subcutaneous fat may be visible but **bone, tendon, or muscle are *not* exposed**. Some slough may be present.
- May include **undermining** and **tunneling**.

Description

- The **depth** of a stage III pressure ulcer **varies by anatomical location**.
 - The bridge of the nose, ear, occiput, and malleolus do not have “adipose” subcutaneous tissue and stage III ulcers can be shallow.
 - In contrast, areas of significant adiposity can develop extremely deep stage III pressure ulcers.
- Bone/tendon is **not visible** or **directly palpable**.



Source: National Pressure Ulcer Advisory Panel

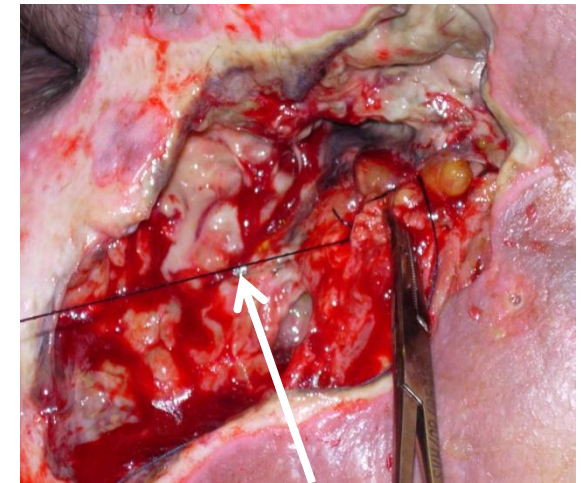
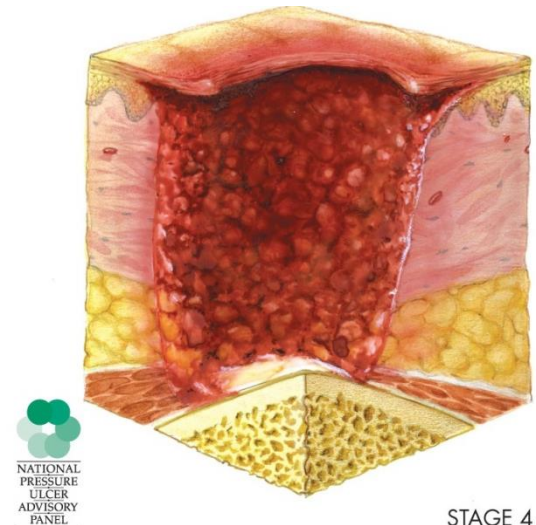
Stage IV

Definition

- **Full thickness tissue loss with exposed bone, tendon, or muscle.**
 - Slough or eschar may be present.
- Often include **undermining** and **tunneling**.

Description

- The **depth** of a stage IV pressure ulcer **varies by anatomical location.**
 - The bridge of the nose, ear, occiput, and malleolus do not have “adipose” subcutaneous tissue and stage IV ulcers can be shallow.
- Stage IV ulcers can **extend into muscle and/or supporting structures** (e.g., fascia, tendon, or joint capsule), making osteomyelitis or osteitis likely to occur.
- **Exposed bone/tendon is visible or directly palpable.**



bone

Source: National Pressure Ulcer Advisory Panel

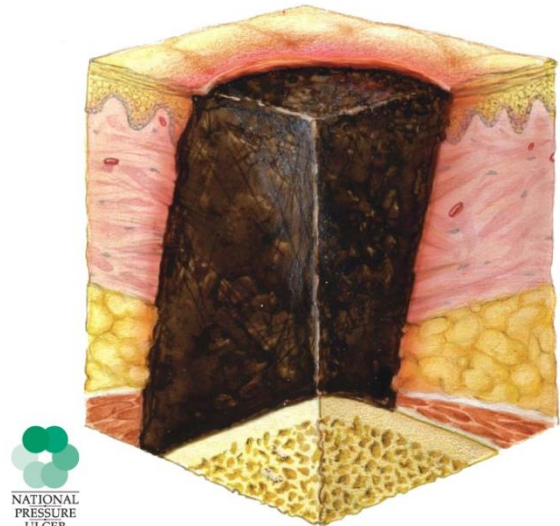
Unstageable

Definition

- **Full thickness tissue loss** in which actual depth of the ulcer is completely obscured by slough (yellow, tan, gray, green, or brown) and/or eschar (tan, brown, or black) in the wound bed.

Description

- Until enough slough and/or eschar is removed to expose the base of the wound, the true depth cannot be determined but it will be either a Stage III or IV.
- Stable (dry, adherent, intact without erythema or fluctuance) eschar on the heels serves as “the body’s natural (biological) cover” and should not be removed.



UNSTAGEABLE



Source: National Pressure Ulcer Advisory Panel

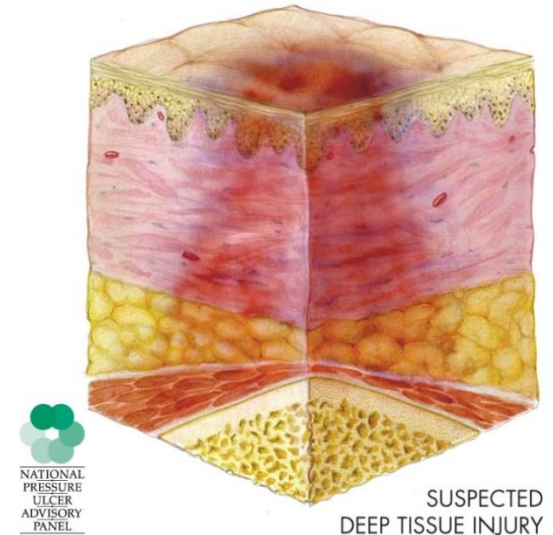
Suspected Deep Tissue Injury

Definition

- **Purple or maroon** localized area of discolored **intact skin** or **blood-filled blister** due to damage of underlying soft tissue from pressure and/or shear.

Description

- The area may be preceded by tissue that is painful, firm, mushy, or boggy, or warmer or cooler than adjacent tissue.
- Deep tissue injury may be difficult to detect in individuals with dark skin tone.
- Evolution may include a thin blister over dark wound bed. The wound may further evolve and become covered by thin eschar.
- **Evolution may be rapid**, exposing additional layers of tissue even with treatment.



Source: National Pressure Ulcer Advisory Panel

Suspected Deep Tissue Injury

- Difficult to say with certainty as outer skin may be intact.
 - Sometimes it really is a bruise.
 - Damage is to deeper tissue and when you see purplish area it is too late to prevent.
- Better to document exactly what you see than have a facility-acquired wound.

Bruise →



Causes of sDTI

- Falls
- Long OR/ER or transportation times
- Splints
- Accidents

Medical Device-Related Pressure Ulcers

- 9.1% of all identified pressure ulcers
- 11.9% of facility-acquired pressure ulcers



Most frequent locations

Anatomic Location	Percentage of Device-Related Pressure Ulcers
Ears	20%
Sacral/ coccyx region	17%
Heel	12%
Buttocks	10%

Remember the Bariatric Patient

- Check between the skin folds and thighs:
 - Rash
 - Maceration
 - Infection (bacteria or candidiasis)
 - Breakdown

- Pressure ulcers may be in unusual locations.



Assess the Wound

- T** **Tissue** both in and around the wound—granulation, slough, necrotic black, pink, mix.
- I** **Infection.** Any open area always has the potential for infection.
- M** **Moisture** (exudate). This determines type of dressing needed to maintain balance.
- E** **Edges.** Are they contracted, rolling, undermining?

Pressure Ulcer Present

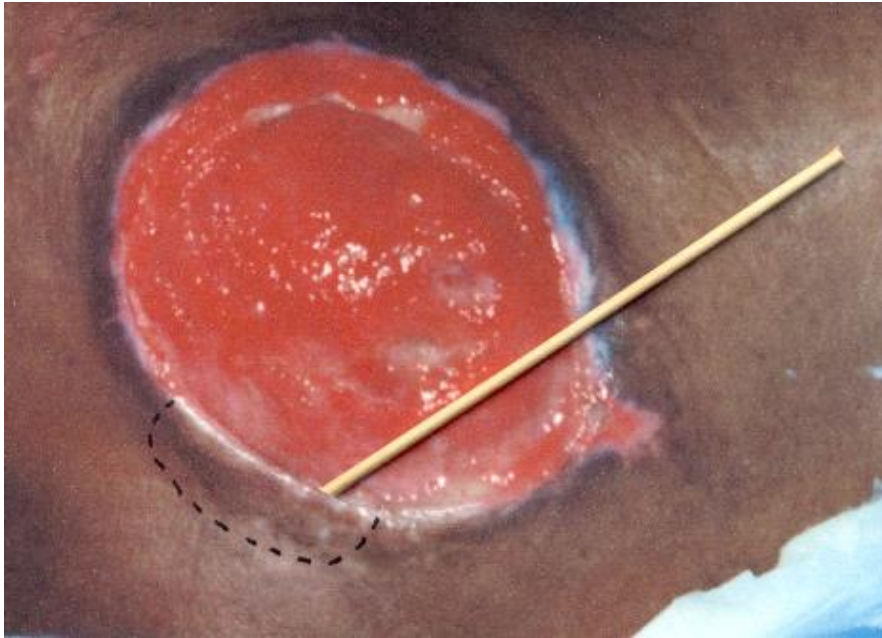
Document

- Length, width, and depth
- Location
- Stage
- Exudate (amount, color, and consistency)
- Tunneling and/or undermining
- % of each type of tissue in wound (granulation, epithelial, eschar, slough, fibrinous)
- Wound edges (attached, not attached, rolled under, irregular, callous)

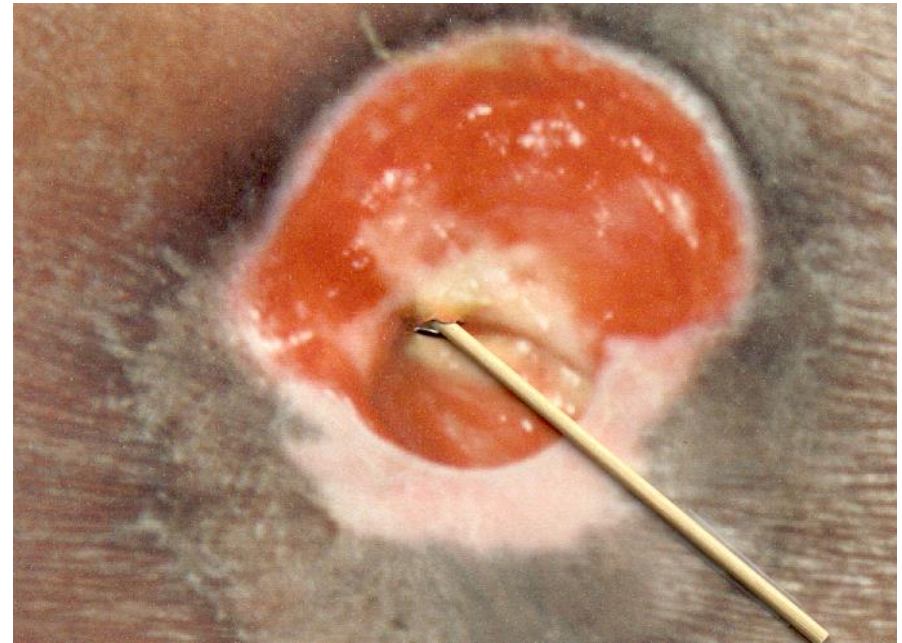
Know Your Assessment Terms

- **Eschar.** Cornified or dried out dead tissue.
- **Slough.** Liquefied or wet dead tissue.
- **Undermining.** Bigger area of tissue destruction than can be seen (extends under the edge).
- **Tunneling.** Tracts extending out from the wound.

How To Measure a Wound



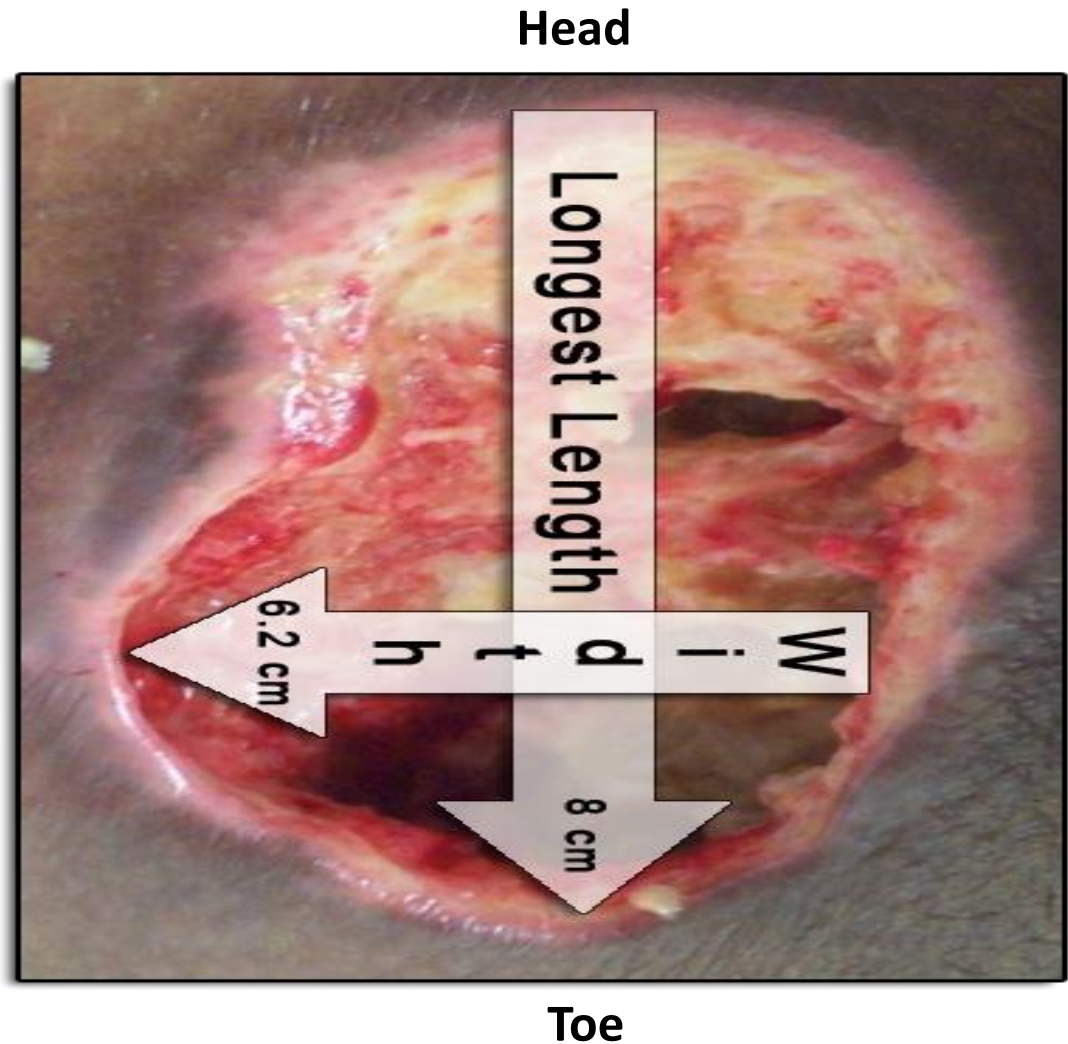
Undermining



Tunneling

How To Measure a Wound

Measure widest width of the pressure ulcer side to side perpendicular (90° angle) to length.



Depth

- Moisten a cotton-tipped applicator with normal saline solution or sterile water.
- Place applicator tip in deepest aspect of the wound and measure distance to the skin level.



Epithelial Tissue



1. **Epithelial tissue** - new skin growing in superficial ulcer. It can be light pink and shiny, even in persons with darkly pigmented skin

M0700. Most Severe Tissue Type for Any Pressure Ulcer

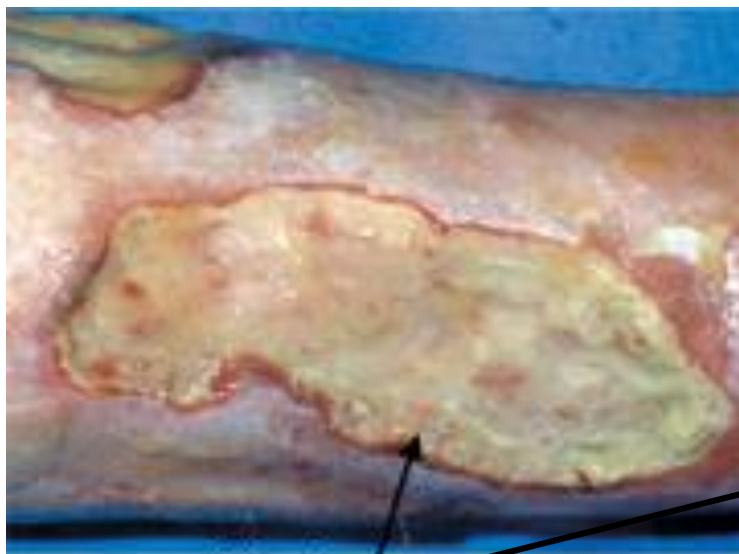
Enter Code

1

Select the best description of the most severe type of tissue present in any pressure ulcer bed

1. **Epithelial tissue** - new skin growing in superficial ulcer. It can be light pink and shiny, even in persons with darkly pigmented skin
2. **Granulation tissue** - pink or red tissue with shiny, moist, granular appearance
3. **Slough** - yellow or white tissue that adheres to the ulcer bed in strings or thick clumps, or is mucinous
4. **Necrotic tissue (Eschar)** - black, brown, or tan tissue that adheres firmly to the wound bed or ulcer edges, may be softer or harder than surrounding skin

Slough



Slough



3. **Slough** - yellow or white tissue that adheres to the ulcer bed in strings or thick clumps, or is mucinous

M0700. Most Severe Tissue Type for Any Pressure Ulcer

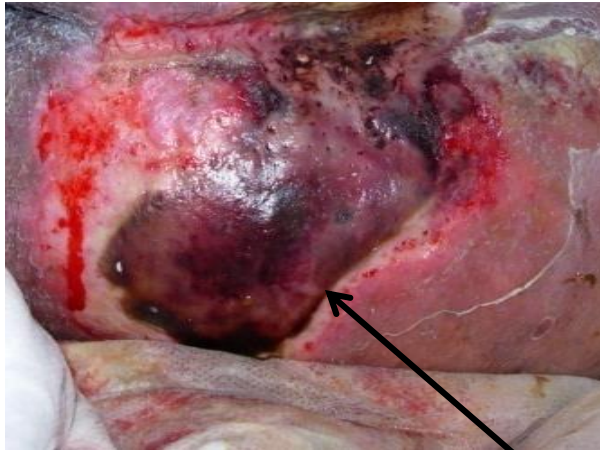
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Select the best description of the most severe type of tissue present in any pressure ulcer bed

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Necrotic Tissue (Eschar)



Eschar

4. **Necrotic tissue (Eschar)** - black, brown, or tan tissue that adheres firmly to the wound bed or ulcer edges, may be softer or harder than surrounding skin

M0700. Most Severe Tissue Type for Any Pressure Ulcer

Enter Code

4

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Skin Failure at Life's End

- Kennedy terminal ulcer:
 - Pressure ulcers may develop right before death.
 - Some people now say this is skin failure at life's end

Selecting Dressings and Treatment

Based on—

- Overall medical condition of patient
- Location of wound
- Size of wound
- Wound etiology
- Wound bed tissue involvement
- Exudate amount
- Pain management
- Living arrangements

Care Planning

SKIN ASSESSMENT + RISK ASSESSMENT =

EFFECTIVE / COMPREHENSIVE CARE PLANNING

Today We Talked About

- How to assess a wound
- How to measure a wound

Any Questions?

Thank you for being such great listeners.

Please refer any questions you have to your QI Specialists.

Resources

- Berlowitz D, VanDeusen C, Parker V, et al. Preventing pressure ulcers in hospitals: a toolkit for improving quality of care. (Prepared by Boston University School of Public Health under Contract No. HHSA 290200600012 TO #5 and Grant No. RRP 09-112.) Rockville, MD: Agency for Healthcare Research and Quality; April 2011. AHRQ Publication No. 11-0053-EF.
- VanGilder C, Amlung S, Harrison P, et al. Results of the 2008-2009 International Pressure Ulcer Prevalence Survey and a 3-year, acute care, unit-specific analysis. *Ostomy Wound Manage.* 2009;55(11):39-45.