



# **WELCOME**

**GINA GAMBARO**

**Director of Marketing**



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- ❖ Click on the **Q&A** icon at the bottom of your screen
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- ❖ Questions will be answered at the program's end, or offline if time runs out

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- ▶ To earn CE, you must attend the entire session
- ▶ **For those sharing a computer**
  - Complete a manual sign-in sheet before the program ends
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  - Each participant must complete an evaluation to obtain CE credit
  - Instructions will also be emailed to the program registrant



## 2024 WEBINAR SERIES

# Pressure Injury and Prevention in Long-Term & Senior Care Settings

**Dione T. Bibat**, *MSN, RN, CWOCN*, Division Manager,  
Clinical Services, Medline



# Learning objectives

- Identify factors that affect skin and at-risk skin.
- Understand best practices for skin care utilization.
- Learn methods to prevent pressure injury in your facility.
- Identify resources and products that can impact outcomes



# Headline

Gain practical skills to enhance patient outcomes and promote quality care by preventing pressure injuries in long-term and senior care settings. Participants will explore risk factors and evidence-based interventions to reduce the incidence of pressure injuries among elderly and immobile residents, including best practices in skin assessment, repositioning techniques, nutrition, and moisture management.



**Skin Health**

# Skin Health: Prevention, Intervention and Treatment

Dionie Bibat, MSN, RN, ET, CWOON  
Sr. Mgr. Clinical Solutions,

04/01/2021 | 04/13/2021/2022  
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Employee, Medline Industries, LP

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# Objectives





Identify key components of a quality routine skin care program based on recommendations, from the Coalition for At-Risk Skin



Identify etiologies and differences in Moisture Associated Skin Damage (MASD), Incontinent associated skin damage, including bruising, purpura and skin tears



Identify pressure injury stage and prevention strategies

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# Where do we start?

2.5 million cases per year  
60,000 deaths per year

Increased risk to elderly

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World Health Organization

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# The Silver Tsunami

- Currently there are 10,000 Americans turning 65 every day.
- In 2020 the average life expectancy was 77 years old.
  - By 2060 the US population will include 19.7 million individuals who are 85 and older.
- By 2060 seniors will account for 23% of the population versus the current 16%.



**Implications for healthcare:**

- Greater demand for healthcare and long-term care services
- Longer waitlists for nursing homes and other senior care facilities

What is the Silver Tsunami? (n.d.). Retrieved May 1, 2023, from <https://www.aanltsaalliance.org/2022/07/26/what-is-the-silver-tsunami-what-is-aging-population-mean-for-children/>

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### Skincare and the impact on prevention

AN OUNCE OF PREVENTION IS WORTH A POUND IN CURE

Benjamin Franklin



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### Skin Care Utilization Analysis



23,590,802

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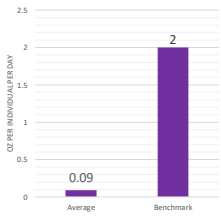
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### Product Utilization Results




#### MOISTURIZER

Average vs Benchmark

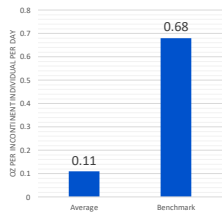


| Category  | Utilization (oz per individual per day) |
|-----------|-----------------------------------------|
| Average   | 0.09                                    |
| Benchmark | 2                                       |



#### BARRIER

Average vs Benchmark



| Category  | Utilization (oz per individual per day) |
|-----------|-----------------------------------------|
| Average   | 0.11                                    |
| Benchmark | 0.68                                    |

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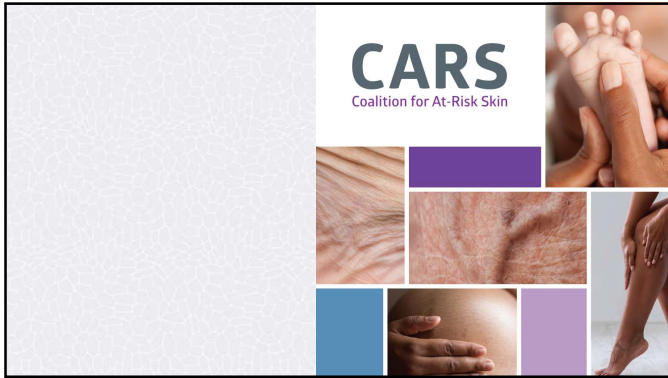
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| Co-Chairs                                                                                                                                |                                                                                                                                                                                                 |
|------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Melissa Morgan - MSN, RN, CWCN<br>Senior Director of Training, Clinical Implementations & Wound Care –<br>Solon Health/Kindred Hospitals | Catherine Milne - APRN, MSN, ANP/ACNS-BC, CWOCN-AP<br>Co-Owner of Connecticut Clinical Nursing Associates                                                                                       |
| Senior Advisor                                                                                                                           |                                                                                                                                                                                                 |
| Diane L. Krasner – PhD, RN, FAAN, FAWC, MAPWCA<br>Wound & Skin Care Consultant                                                           | Tom Clopp – BSEd, MEd<br>Market Sales Director – Medline Skin Health                                                                                                                            |
| Members                                                                                                                                  |                                                                                                                                                                                                 |
| Edna Atwater - BSN, RN<br>Consultant - Duke University Department of Dermatology                                                         | Jeanine Maguire - MPT, CWS<br>Vice President of Skin Integrity & Wound Management - Genesis HealthCare                                                                                          |
| Dr Maria Goddard - MD, CWS, FAPWCA<br>CEO- Goddard Medical, LLC                                                                          | Noreen Heer Nicol - PhD, RN, FNP, NEA-BC<br>Associate Professor Emerita, former Associate Dean of Academic Programs,<br>University of Colorado, College of Nursing, Anschutz Medical Campus     |
| Martha R. Kelso - RN, LNC, HBOT<br>Chief Executive Officer - Wound Care Plus, LLC                                                        | Monica Timko-Progar - BSN, RN, ET, CWS, FCCWS<br>Corporate Sr. Director of Wound Care Practice - Amedisys Home Health & Hospice<br>Care                                                         |
| Joanne M. Labiak - MSN, CRNP, CWOCN, CWS, DAPWCA<br>Owner - Certified Wound Care Specialists, LLC                                        | Dr Jayesh Shah – MD, UHM(ABPM), CWSP, FAPWCA, FCCWS, FUHM,<br>FACP, FACHM<br>President, South Texas Wound Associates, PA, Medical Director NE and Mission Trail<br>Baptist Wound Healing Center |
| Kimberly LeBlanc - PhD, RN, NSWOC, WOCC(C), FCAN<br>KCS Professional Consulting                                                          | Kevin Woo – PhD, RN, NSWOC, WOCC(C)<br>Full Professor – Queen's University, Faculty of Health Sciences                                                                                          |

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### Consensus Statements Divided



- Practice Considerations for skin health and At-Risk Skin
  - Initial and ongoing assessments, intervention strategies, personalization
- Moisturizers and their role in Skin Health
  - Efficacy, claims made for certain products, creams over lotions
- Practice Considerations for moisturizers and skin barriers
  - Daily moisturization, 1 oz
- Special Perspectives or Considerations
  - PPE and End-of-Life
- Organization Perspectives or Considerations
  - Guidelines, standardized formulary, education, ongoing assessment of the program

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## Definition of At-Risk Skin

1.

At-risk skin is defined as the potential for impaired barrier function of the skin due to associated intrinsic or extrinsic risk factors, conditions and co-morbidities.

Reidman D, Campbell J, Lefkowitz K, et al. Best practice recommendations for holistic strategies to promote and maintain skin integrity. Woundcare International. February 8, 2020. Accessed March 7, 2022. <https://www.woundcareinternational.com/clinical/best-practice-recommendations-holistic-strategies-promote-and-maintain-skin-integrity>

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## Risk Factors Associated with At-Risk Skin\*

☐ Advancing age > 65

☐ Anticoagulant use

☐ Atopic dermatitis

☐ Cognitive impairment

☐ Dependent/assistance needed for activities of daily living

☐ Drug/alcohol/tobacco use

☐ Eczema

☐ Emotional stress

☐ Endocrine disease (e.g. Diabetes or Thyroid disorders)

☐ Frequent handwashing/sanitization

☐ Genetic and inherited conditions

☐ History of current topical or systemic steroid use

☐ Immunocompromised or malabsorption disease or allergy

☐ Incontinence

☐ Incontinence Associated Dermatitis

☐ Lack of quality sleep

☐ Malnutrition and dehydration

☐ Mobility

☐ Moisture Associated Skin Damage (MASD)

☐ Open wounds or fistulae with drainage

☐ Physical stress

☐ Polypharmacy

☐ Sequella of medical and/or surgery treatments

☐ Social determinants (affordability, accessibility, literacy, etc.)

☐ Ultraviolet light or radiation exposure

☐ Underlying systemic disease (vascular, cancer, diabetes, etc.)

☐ Use of a medical device in contact with the skin

☐ Use of personal protective equipment (gloves, masks, and other types of PPE)

☐ Xerosis

\*This list may not be inclusive of all risk factors associated with at-risk skin.

Reidman D, Campbell J, Lefkowitz K, et al. (2020). Best Practice Recommendations for Holistic Strategies to Promote and Maintain Skin Integrity. 2020 Recommendations from an Expert Working Group. Woundcare International. 2020.

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## Moisturizers and Their Role in Skin Health

7.

The properties, ingredients, utilization and intended use of skincare products impact their efficacy. This includes moisturizers and skin barriers.

8.

Many skincare products fall under the US Federal Food and Cosmetic Act of 1938. Product claims should be evaluated carefully before selection as therapeutic claims may not be clinically validated or relevant.

9.

For individuals with at-risk skin, creams or ointments are preferred to improve skin barrier function by decreasing transepidermal water loss (TEWL). Lotions may be drying and therefore may not achieve the desired effect.

Reid, Nemes & Eggen. Frost & Weber, Tempe & Indur, Adelaide. (2021) Best Moisturization for Wound Dermatitis: Ingredients, Recommendations, and Moisturizer Claims. The Journal for Wound Care. 17 (2021) 104615.

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| Therapeutic Properties         | Quality ingredients                                                                                  |
|--------------------------------|------------------------------------------------------------------------------------------------------|
| Skin Protectant                | Dimethicone, Zinc Oxide, Petrolatum, Kaolin, Colloidal Oatmeal                                       |
| Antioxidant                    | Hydroxyacetophenone, Glycyrrhizic Acid and Derivatives                                               |
| Anti-Inflammatory              | Colloidal Oatmeal, Beta-Glucan, Oat Extracts, Chamomile Extracts, Glycyrrhizic Acid, and Derivatives |
| Essential Barrier Lipids       | Ceramides, Phospholipids, Urea                                                                       |
| Emollient                      | Plant Oils, Fatty Acids, Fatty Alcohols, Squalane, Caprylic/Capric, Triglyceride                     |
| Humectant / Skin Conditioning  | Glycerin, Propanediol, Allantoin, Lactic Acid, Urea, Sodium, Hyaluronate / Hyaluronic Acid           |
| Natural Moisturizing Factor    | Lactic Acid, Urea, Sodium, Hyaluronate / Hyaluronic Acid, Hydrolyzed Soy Protein, Soy Amino Acids    |
| pH buffers                     | Acidic buffers optimize pH between 4 and 5 (eg, citric acid)                                         |
| Protein & Protein Rejuvenators | Collagen, elastin, keratin, soy amino acids, hydrolyzed soy protein, arginine, glycine               |



### Therapeutic Ingredients Guide

*\*Carbomer ingredients, act as a thickener when added to moisturizers. It makes the moisturizer creamier, however it may not effectively decrease TEWL.*

Guidance for At-Risk Skin, 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## Practice Considerations for Moisturizers and Skin Barriers

An entire medicine cup

4 packs of ketchup

Three coffee creamers

A travel toothpaste

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## Organization Perspectives Or Considerations

17. Organizations seeking best practice should educate staff, individuals, families, and caregivers on indications, contraindications, application, and frequency of skincare product use to mitigate at-risk skin.
18. Organizations should commit to ongoing performance improvement strategies related to at-risk skin.
19. Organizations should use comprehensive skin health guidelines with a focus on at-risk skin to improve clinical and operational outcomes. These may reduce negative financial, regulatory, and legal consequences.
20. Organizations seeking best practice can mitigate risk of at-risk skin through provision and promotion of a quality standardized formulary with access to non-formulary products if individual needs dictate.

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## Process: Guidelines

The Institute of Medicine (IOM) defines clinical practice guidelines as "statements that include recommendations, intended to optimize patient care, that are informed by a systematic review of evidence and an assessment of the benefits and harms of alternative care options"

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## Identify Strategies to Promote Optimal Skin Health

**People**

- Residents At Risk
- Staff
- Providers

**Process**

- Policy & Procedure
- Guidelines for Care
- Ongoing Education

**Products**

- Type
- Amount per application
- Utilization per patient days



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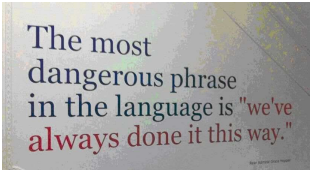
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Bringing it to the "bedside"

## Streamlining Staff Processes



- Sizing of skin care products
  - Dispensers in shower rooms/resident rooms
- Promoting Best Practice
  - "How to" posters in shower rooms, supply room, nursing stations
  - Tent cards at the patient/resident bedside
- Engaging Activities
  - Spa Day
  - Simon Says

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## Common Skin Injuries

More than just Pressure

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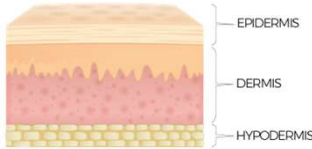
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## Functions of the Skin



- Protective barrier
- Thermoregulation
- Sensation
- Storage
- Metabolism
- Immunity
- Communication

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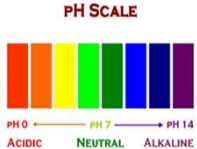
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## Normal Skin



- Acidic pH of 4.5–6. pH plays a fundamental role in the skin's barrier (acid mantle)
- Assists in regulating bacteria on the skin (skin microbiome).
- Ensures the optimal stratum corneum cohesion and barrier function

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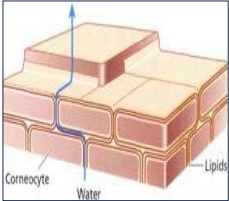
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## The Skin as a Barrier



- Corneocytes (keratinocytes)
- Dead cells held together by lipids (creates waterproofing)
- 20% content is H<sub>2</sub>O
- “Brick and mortar of skin”
- A healthy stratum corneum provides the best line of defense against invasion

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



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### Basic Skin Assessment



| Temperature                                                                          | Color                                                                             | Moisture                                                                                | Turgor                                                                            | Integrity                                                                         |
|--------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Normally warm to touch<br>• Warmer – Inflammation<br>• Cooler – Poor Vascularization | Intensity –<br>• Paleness may be an indicator of poor circulation                 | • Dry<br>• Moist<br>• Hyperkeratosis<br>• Eczema<br>• Dermatitis<br>• Rashes<br>• Edema | Normally returns to its original state quickly                                    | • No open areas<br>• Type of injury                                               |
|     |  |        |  |  |

Bryant, R.A. and Nix, D. P. (2016) Types of Skin Damage and Differential Diagnosis. In Bryant, R.A. Acute and Chronic Wounds (3rd edition). St. Louis, Missouri, Elsevier Inc., Pgs. 82-106

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### History- OLDCHARTS



**O:** Onset: Acute or gradual?  
**L:** Location: Where? Use proper anatomical locations  
**D:** Duration: How long has this been? Recent or Chronic?  
**CH:** Characteristics: Color, texture, temperature, moisture, drainage, of skin  
**A:** Aggravating Factors: What makes it worse?  
**R:** Relieving Factors: What makes it better?  
**T:** Treatments: What has been tried so far? What was the response?  
**S:** Severity: How severe is this? Pain level? Drainage amount?

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### Assessment



Clues to the Etiology of a skin disorder can be determined from:

- History and Physical Assessment
- Detailed Focus Assessment
  - Location
  - Characteristics
  - Distribution



**CLINICAL PEARL:** Complete before initiating a plan of care

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## Common Skin Injuries

- MASD - Moisture Associated Skin Damage
- MARS - Medical Adhesive Related Skin Injuries
- Skin Tears
- Bruising - Hematomas, Purpura, Vasculitis



Bryant, R.A. and Nix, D. P. (2016) Types of Skin Damage and Differential Diagnosis. In Bryant, R.A. Acute and Chronic Wounds (3rd edition). St. Louis, Missouri, Elsevier Inc., Pgs. 82-106  
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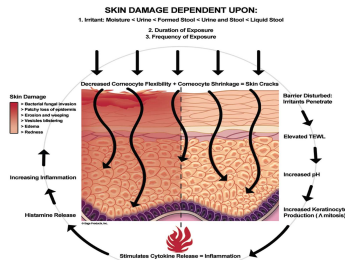
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## Pathophysiology of IAD



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## IAD-Inflammation

- A type of irritant contact dermatitis
- Inflammation of the skin found in patients with fecal or urinary incontinence



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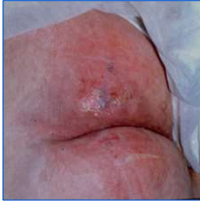
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### IAD-Misdiagnosed

- Often misdiagnosed as a pressure injury
- Prolonged contact with urine and/or feces
- Skin more susceptible to damage from pathogens
- Exacerbated by:
  - Soaps and detergents
  - Occlusive containment devices



Bryant, R.A. and Nix, D. P. (2016) Types of Skin Damage and Differential Diagnosis. In Bryant, R.A. Acute and Chronic Wounds (3rd edition). St. Louis, Missouri, Elsevier Inc., Pgs. 83-106

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### Fungal Dermatitis with IAD

**Candida**

- Primarily affects the mucous membranes and intertriginous areas of the skin

**Tinea**

- Caused by a fungus commonly seen on the skin, scalp, nails



Bryant, R.A. and Nix, D. P. (2016) Types of Skin Damage and Differential Diagnosis. In Bryant, R.A. Acute and Chronic Wounds (3rd edition). St. Louis, Missouri, Elsevier Inc., Pgs. 83-106

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### Incontinence Products

|              | Drypads                                                                             | QuickChange                                                                         | Underpads                                                                           | Dry sheets                                                                          | Briefs                                                                              | Underwear                                                                           | Maternity and pads                                                                  |
|--------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Clinical Use |  |  |  |  |  |  |  |
|              | Open airing, incontinence and moisture protection.                                  | Light to-moderate urinary incontinence for men                                      | Procedures and bed protection                                                       | Skinfold moisture management                                                        | Heavy urinary and bowel incontinence                                                | Light to-moderate urinary incontinence                                              | Absorbency and containment designed for postpartum flow                             |

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## IAD-Treatment



**Protect** skin from further breakdown and irritants!

Use of a skin barriers (ointments, creams, various products) **Intact vs Open skin**

Think **THIN vs. THICK applications**

Appropriate use of incontinence products (briefs, liners, pull-ups, underpads, external and internal devices)

Think absorbency, containment, and **BREATHABILITY**

**NO** double briefing

Ermer-Selton, J., Netzer, D., and Rutland, B.S. (2015). NURS252: Module II: MAST: Moisture Associated Skin Damage Across the Scopes. webWOC Nursing Education Program. Minneapolis, MN. Pgs 1-42

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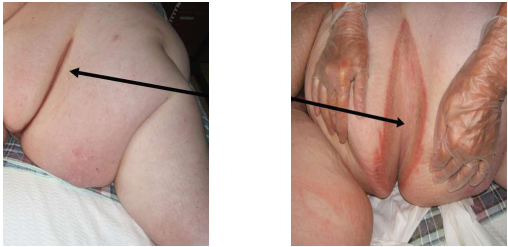
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## ITD



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## ITD with fungal infection



- Inflammatory condition of the skin caused by friction and moisture trapped between opposing skin surfaces
- Normal skin flora has the potential to become pathogenic
- Common Areas:
  - Groin
  - Axilla
  - Under the breasts
  - Under the abdominal pannus

Bryant, R. A. and Nix, D. P. (2016). Types of Skin Damage and Differential Diagnosis. In Bryant, R.A. Acute and Chronic Wounds (3rd edition). St. Louis, Missouri, Elsevier Inc., Pgs. 82-106

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## ITD-treatment



### Treatment:

- Good hygiene. Clean and dry!
- Use of absorbent approved products or barrier powders
- Use of **breathable** barrier creams
- Use of textile products with moisture wicking action
- DO NOT use harsh textiles, non-absorbent materials, or humectants
- Appropriate use of antimicrobial or anti-fungal products

Ermer-Selton, J., Netch, D., and Rohlfad, B.S. (2015). NURSE321: Module 8: MASD: Moisture Associated Skin Damage Across the Scopes. webWOC Nursing Education  
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## Periwound Maceration



### Overhydrated Stratum Corneum

- Affects the periwound skin; not the wound
- Skin becomes more prone to further breakdown



Bryant, R.A. and Nix, D. P. (2016) Types of Skin Damage and Differential Diagnosis. In Bryant, R.A. Acute and Chronic Wounds (3rd edition). St. Louis, Missouri, Elsevier Inc., Pgs. 82-106  
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## Peristomal Irritant Dermatitis



- Typical irritants are urine, stool or chemical
- Inflammation and erosion of the skin
- Often begin at the mucocutaneous junction (MCJ) of the stoma



**Clinical Pearl: Irritated and red skin is NOT a normal for ostomates!**

Bryant, R.A. and Nix, D. P. (2016) Types of Skin Damage and Differential Diagnosis. In Bryant, R.A. Acute and Chronic Wounds (3rd edition). St. Louis, Missouri, Elsevier Inc., Pgs. 109-122  
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## Medical Adhesive Related Skin Injury (MARSi)

An occurrence in which erythema and/or other manifestation of cutaneous abnormality persists 30 minutes or more after removal of the adhesive



MUNICH L., Lund C., Rosen T., & Gray M., WOOD, 2015

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## Bruising

- Traumatic injuries - typically the result of falls or simple insults
- Can develop into worsening injuries - hematoma, skin tears, open wounds

**Clinical Pearl: Do NOT mistake an Unstageable PI for a bruise!**



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## Purpura

- A condition of red or purple discolored spots on the skin that do not blanch on applying pressure
- Bleeding underneath the skin
  - Purpura = 3-10mm
  - Petechiae = <3 mm
  - Echymosis = >1 cm



Bryant, R.A. and Nix, D. P. (2016) Types of Skin Damage and Differential Diagnosis. In Bryant, R.A. Acute and Chronic Wounds (3rd edition). St. Louis, Missouri, Elsevier Inc., Pg. 178

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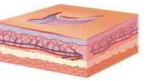

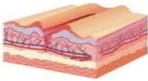





### Skin Tears

Type 1 -  
No Skin Loss

Type 2 -  
Partial Flap Loss

Type 3 -  
Total Flap Loss





Bryant, R.A. and Nix, D. P. (2016) Types of Skin Damage and Differential Diagnosis. In Bryant, R.A. Acute and Chronic Wounds (3rd edition). St. Louis, Missouri, Elsevier Inc., Pgs. 83-106

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### Skin Tears - At Risk Skin

Intrinsic Factors

Extrinsic Factors

- Age
- Dehydration
- Poor Nutrition
- Cognitive impairment
- Altered Mobility
- Decreased Sensation

- Dry Skin
- Senile Purpura
- Ecchymosis
- Hematoma
- Previous scars
- Edema

Bryant, R.A. and Nix, D. P. (2016) Types of Skin Damage and Differential Diagnosis. In Bryant, R.A. Acute and Chronic Wounds (3rd edition). St. Louis, Missouri, Elsevier Inc., Pgs. 85-87

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### Pressure Injury Prevention

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### Pressure Injury Prevention

Begins with Comprehensive Skin Care Assessment and Appropriate Interventions

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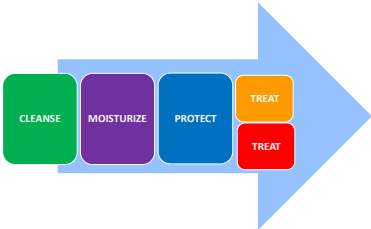
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### Skin Care





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### Cleanse

#### Soaps

- Oldest cleaning agent
- Can be highly alkaline

#### Surfactants

- Synthetic detergents
- May be pH balanced

#### Phospholipids

- Derived from natural oils (coconut)
- Provide excellent cleansing and conditioning
- Doesn't strip or dry skin





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### Moisturize

**Transepidermal water loss (TEWL)**

- Skin transpires up to one liter per day
- Minimized by using dimethicone or silicone products
- Emollients replace intercellular lipids and slow TEWL
- Humectants attract and hold water within the skin cells



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### Protect

Protect skin from moisture, chemical irritants, pathogens, and mechanical forces

Must be breathable and not occlude the pores

Improve skin integrity with nutrients, amino acids, vitamins, & anti-oxidants

Protect the epidermis from epidermal stripping



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### Treat

**Treat skin disorders appropriately to assist with minimizing complications**

Pressure Injuries

Moisture Associated Skin Damage (MASD)

Skin Tears



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## Pressure Injury Risk Tools



Braden  
 Braden Q (pediatrics)  
 Braden Q + P (pediatrics and perioperative)  
 Norton  
 Norton Plus

Clinical Pearl: Best Practice is to use a Validated Pressure Injury Risk Assessment Tool



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## Braden Scale

BRADEN SCALE FOR PREDICTING PRESSURE SORE RISK

| Item                  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 |
|-----------------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|-----|
| 1. Sensory Perception | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 |
| 2. Moisture           | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 |
| 3. Activity           | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 |
| 4. Mobility           | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 |
| 5. Nutrition          | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 |

### 6 Subscores

- Sensory Perception  
\*Impacts intensity of pressure
- Moisture  
\*Affects tissue tolerance
- Activity  
\*Impacts intensity of pressure
- Mobility  
\*Impacts intensity of pressure
- Activity  
\*Impacts intensity of pressure
- Nutrition  
\*Affects tissue tolerance

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## Beyond Risk Assessment Tools



*“Caution: Do not rely on the results of a risk assessment tool alone when assessing an individual’s pressure ulcer risk.”*

Not all risk factors will be captured for all patients

Remember... it’s just a tool



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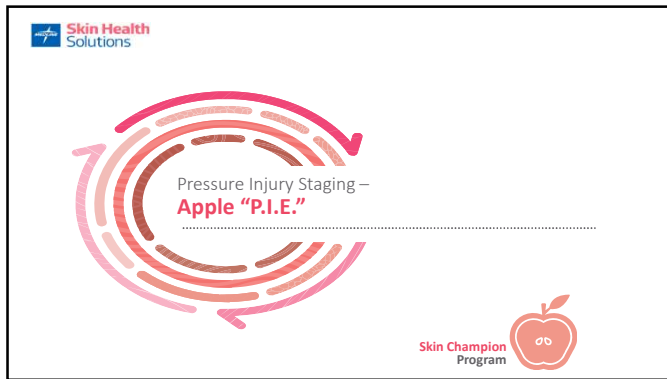
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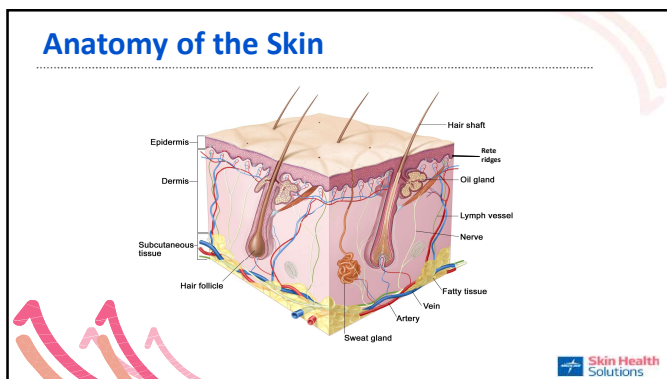
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## Classification of Tissue Destruction: All Types

All wounds, regardless of etiology, can be described as *either partial or full thickness injury*.

### PARTIAL THICKNESS

Or if Pressure Injury  
Stage 2

### FULL THICKNESS

Or if Pressure Injury  
Stage 3 / Stage 4

The NPIAP staging system applies **ONLY**  
to pressure injuries.



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## Pressure Injury:

- A pressure injury is localized damage to the skin and/or underlying soft tissue usually over a bony prominence, or related to a medical or other device. The injury can present as intact skin or an open ulcer and may be painful. The injury occurs as a result of intense and/or prolonged pressure or pressure in combination with shear. The tolerance of soft tissue for pressure and shear may also be affected by microclimate, nutrition, perfusion, co-morbidities and condition of the soft tissue. NPIAP 2019



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## Pressure Injury assessment

- Based on both visual and palpatory exam.
- Tissue injury depth does not determine the stage of the Pressure injury (PI).
- Tissue involved may be, epidermis, dermis, subcutaneous, fat, muscle, bone tendon and ligament.
- PI staging depth varies by the anatomical location
- Classify healed previous full thickness injury as "re-opened, recurrent or new" depending on length of time since previous injury closed and maturation of the scar tissue



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## Classifying Pressure Injuries in dark pigmented skin

Dark skinned individuals requires increased awareness to assessment factors.

- In addition to visual factors used to identify a PI, assessment may include:
  - assessment of skin temperature
  - sub-epidermal moisture.

Areas of erythema are difficult to identify in dark pigmented individuals. To augment, assess for

- localized heat, induration or hardness of tissue
- change in the tissue consistency in comparison to surrounding tissue
- reported pain related to the area- and reported on palpation



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## National Pressure Injury Advisory Panel (NPIAP)



**APPLE P.I.E**



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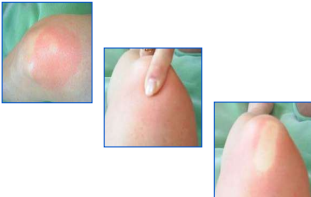
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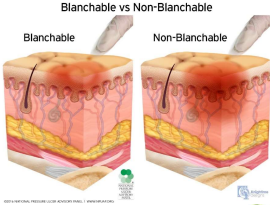
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## Blanchable Erythema

**NOT a Pressure Injury**



Blanchable vs Non-Blanchable



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## A red apple whose color will not change



### Stage 1

Intact skin with a localized area of non-blanchable erythema  
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 1 - clinical picture



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## Stage 1



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Apples to Apple P.I.E. 

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## Stage 2




**Just the peeling is removed**

Partial-thickness loss of skin with exposed dermis

The 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 are NOT present.

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## Stage 2





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## Stage 3

**A bite out of the Apple**






Full-thickness loss of skin, in which adipose (fat) tissue is visible in the ulcer and granulation tissue and epibole (rolled wound edges) are often present

Slough and/or eschar MAY be visible.

Undermining and/or tunneling often occur.

The depth of tissue varies by anatomical location; areas of significant adiposity can develop deep wounds.

Fascia, muscle, tendon, ligament, cartilage and/or bone are NOT exposed or palpable.

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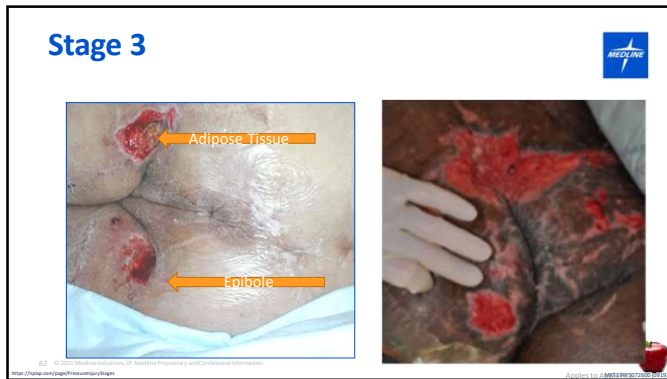
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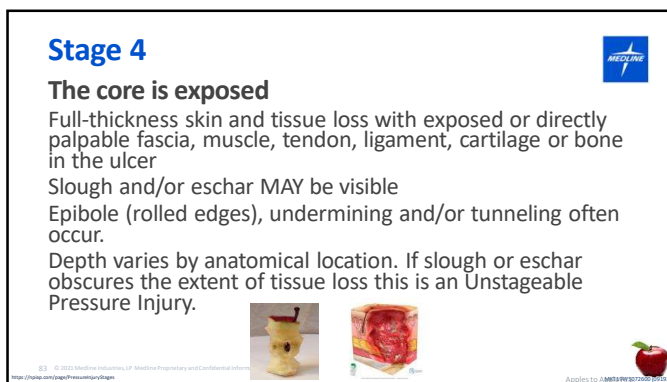
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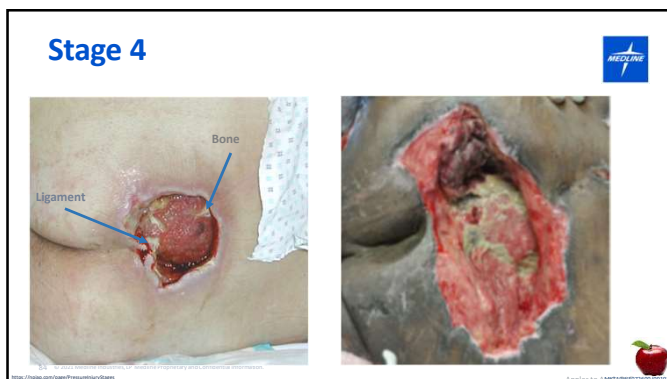
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## Deep Tissue Pressure Injury (DTPI)




**The apple is bruised**

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.

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.

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## Deep Tissue Pressure Injury (DTPI)





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## Unstageable

**The apple is covered in Caramel**

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.

If slough or eschar is removed, a Stage 3 or Stage 4 pressure injury will be revealed.

Stable eschar (i.e. dry, adherent, intact without erythema or fluctuance) on an ischemic limb or the heel(s) should NOT be removed.

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## Unstageable



Slough Eschar

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## Device Related Pressure Injury

Medical device related pressure injuries result from the use of devices designed and applied for diagnostic or therapeutic purposes. The resultant pressure injury generally conforms to the pattern or shape of the device. The injury should be staged using the staging system. NPIAP 2016



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## Medical Device Pressure Injury

Devices including compression, heel boots, cannulas, catheters, etc.



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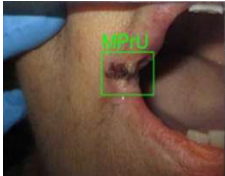
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## Mucosal Membrane Pressure Injury

Mucosal membrane pressure injury is found on mucous membranes with a history of a medical device in use at the location of the injury. Due to the anatomy of the tissue these injuries cannot be staged.



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Skin Health Solutions

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## Reverse Staging

**Why not Reverse Stage?**

- Pressure Injuries heal to more shallow depth
- Muscle, bone, tendon, subcutaneous fat or dermis can NOT be replaced
- Pressure injuries are filled with granulation (scar) tissue before they reepithelialize

When an advanced stage (3 or 4) has healed, it should be classified as a Healed stage 3 or 4.

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Skin Health Solutions

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## Stage These Injuries

Skin Health Solutions

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### Team Approach

- Communicate
- Educate
- Build a team
- Cheer the champions
- Celebrate success
- Share stories

Develop a standardized toolbox and utilize your resources!!!



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Wound Management 2016

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Wound Management 2016

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### Thank you!



<https://www.surveymonkey.com/r/XDHTW3W>



102

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Wound Management 2016

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# Q & A



# About CE credit

## Administrator credit

This program has been approved for one total participant hour of continuing education credit by the National Continuing Education Review Services (NCERS) of the National Association of Long-Term Care Administrator Boards (NAB).

Approval #20260402-1-A111523-DL

## Nursing credit

This program has been approved for one total participant hour of continuing education credit by The Illinois Board of Nursing, an approved sponsor of continuing education by the Illinois Department of Professional Regulation.



# Obtaining CE credit

- ▶ Complete the evaluation at the conclusion of this program:
  - In your web browser
  - Also emailed immediately following this program
- ▶ For those sharing a computer to view the webinar:
  - Submit your sign-in sheet to the email address listed on the form
  - Each participant will then be emailed a link to the evaluation
  - Each person must complete an evaluation to receive CE credit
- ▶ CE certificates should be **emailed in the next 30 days**



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*Stay tuned for our upcoming webinars:*

[ForumPharmacy.com](https://forumpharmacy.com)

## **LIVE Session**

*9<sup>th</sup> Annual Live Forum on Post-Acute, LTC & ALF*

## **Date**

*Thursday, June 12, 2025, 7:00am - 4:00pm*



**THANK YOU!**