Stage 1 Pressure Injury: Non-Blanchable Erythema of Intact Skin

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Objectives

1. Describe new changes to the definition of Stage 1 pressure injuries.
2. Identify Stage 1 pressure injuries accurately.
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.
Blanch Response: Pale or whitish areas on the skin as blood flow to the region is prevented by a finger or plastic disc (diascopy).

- To determine blanching
  - Apply light pressure for a few seconds
  - Release and watch for quick return to usual skin color

- Blanchable
  Skin color returns immediately

- Non-blanchable erythema
  The lack of a blanche response occurs when light pressure is applied or, persistent redness in lightly pigmented skin
Blanchable vs. Non-Blanchable

- Blanchable
  - Normal reactive hyperemia
  - Needs recovery time before reloading

- Non-Blanchable
  - Stage 1 Damage
  - Keep off!
  - Better Surface?
  - Higher risk?

Erythema

Photo courtesy of Dr. Tom Defloor
Photo courtesy of EPUAP
Stage 1 Pressure Injury Example

- Stage 1 Pressure Injury was discovered on tissue that had been exposed to pressure in combination with shear
- Patient was laying supine when the injury pressure injury occurred
- Pressure injury is located on the buttocks rather than the sacrum
  - The linear mark is from a fold in the linen

Treatment of Stage 1

- Offload!!!
- Reconsider risk status & prevention plan
- Reconsider support surfaces
- More frequent skin assessment
- **Dressing**
  - None?
  - Multi-layer foam with silicone border?
  - Hydrocolloid?
  - Film?
  - It depends
- Maintain skin health
  - Moisture management
  - Moisturizers for dry skin
Pigmented Skin

• **Melanocytes in the epidermis**
  – Produce melanin pigment to absorb radiant energy and protect the skin from harmful ultraviolet (UV) radiation

• **Causes of skin tone variations**
  – Sun exposure
  – Gender
  – Race
  – Hormones
  – Age

Stage 1 in Darkly Pigmented Skin

Intact skin with a localized area of non-blanchable erythema, which may appear differently in darkly pigmented skin.

• Pigmentation of the skin may prevent visualizing the reactive hyperemia in the pressure injury
• Moistening the skin will often aid in visualizing color change
• Ask about pain in the area
• Palpate the skin for induration
Stage 1 Pressure Injury Example

- Darkly pigmented skin does not have a visible blanche response

- Examine the skin for other changes indicating pressure injury
  - Discoloration compared to surrounding skin
  - Pain in the area
  - Induration

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Did we get it right?

<table>
<thead>
<tr>
<th>Clearly Presented</th>
<th>Evidence Synthesized</th>
<th>Evidence Gaps Identified</th>
<th>Consensus Reached</th>
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- Strongly Agree 97.7%
- Agree 94.3%
- Neutral 91.1%
- Disagree 97.9%

- Strongly Disagree
Future Research

1. Is “non-blanchable” a necessary condition?
2. Epidermis is avascular. Are we actually seeing dermal changes through an intact epidermis?
3. How can we more accurately assess Stage 1 in darker skin tones?
4. How can we more accurately assess surrounding and underlying tissue changes in Stage 1 pressure injuries?

Teaching Tips: Look! Touch! Ask!

1. **Non-blanchable erythema:**
   - How do you test for it?
   - What does it mean when you find it?
   - What does it mean when you don’t?

2. **Palpate for tissue changes:**
   - surrounding & underlying tissue
   - warmer vs. cooler
   - firmer vs. softer
   - pain?

3. **Special strategies for darker skin tones.**

4. **Differential Diagnosis:**
   - Pressure – shear etiology
   - Not purple or maroon (Think DTPI)
   - No scar tissue
Test Your Diagnostic Skills!
Is this a Stage 1 pressure injury?

Stage 1?

- This 86 year old female has an area of reddened skin on the right heel.
- The alteration in skin color persists under applied light pressure.
- There is no break in the skin surface.

Photo courtesy of M. Sieggreen and J. Maklebust
Stage 1?

- 75 year old man
- Post AAA repair
- Prolonged hypotension
- Cross-clamped
- Skin:
  - intact
  - cold to touch
  - firm to palpation
  - some areas permanently blanched
  - purple areas non-blanchable

Stage 1?

- 26 year old “found down” on garage floor
- Skin intact
- Color, temperature and tissue consistency changes in affected area
- Reports pain to palpation
Stage 1?

- 65 year old female
- Positioned on left side during 5-hour surgery.
- Reddened area is non-blanchable and tender.

Photo courtesy of Nebraska Medicine