A pressure ulcer is a 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 and/or friction. A number of contributing or confounding factors are also associated with pressure ulcers; the significance of these factors is yet to be elucidated.

**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. The area may be preceded by tissue that is painful, firm, mushy, boggy, warmer or cooler as compared to adjacent tissue.

**Further description:** Deep tissue injury may be difficult to detect in individuals with dark skin tones. Evolution may include a thin blister over a 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 optimal treatment.

**STAGE I:**
Intact skin with non-blanchable 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.

**Further description:** The area may be painful, firm, soft, warmer or cooler as compared to adjacent tissue. Stage I may be difficult to detect in individuals with dark skin tones. May indicate “at risk” persons (a heralding sign of risk).

**STAGE II:**
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 blister.

**Further 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, perineal dermatitis, maceration or excoriation. *Bruising indicates suspected deep tissue injury

**STAGE III:**
Full thickness tissue loss. Subcutaneous fat may be visible but bone, tendon or muscle are not exposed. Slough may be present but does not obscure the depth of tissue loss. May include undermining and tunneling.

**Further 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 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.

**STAGE IV:**
Full thickness tissue loss with exposed bone, tendon or muscle. Slough or eschar may be present on some parts of the wound bed. Often include undermining and tunneling.

**Further 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 subcutaneous tissue and these ulcers can be shallow. Stage IV ulcers can extend into muscle and/or supporting structures (e.g., fascia, tendon or joint capsule) making osteomyelitis possible. Exposed bone/tendon is visible or directly palpable.

**UNSTAGEABLE:**
Full thickness tissue loss in which the base of the ulcer is covered by slough (yellow, tan, gray, green or brown) and/or eschar (tan, brown or black) in the wound bed.

**Further description:** Until enough slough and/or eschar is removed to expose the base of the wound, the true depth, and therefore stage, cannot be determined. 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.

**GENERAL WOUND CARE CONSIDERATIONS**
Before you plan local care, always address two questions:
1. What is the goal for managing the wound?
2. What caused the wound to begin with?
3. What factors are preventing wound progress?

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**Is the wound infected?**

- **YES**
  - Culture & systemic antibiotics w/ topical antimicrobials

- **NO**
  - **NO, but bacterial overload is suspected**
  - Topical antimicrobials x 14-24 weeks

**Is there dead tissue to debride?**

- **NO**
  - Select cleansing method

- **YES**
  - Select appropriate debridement

**Is there depth?**

- **NO**
  - Do you need to add moisture?

- **YES**
  - Do you need to absorb exudate?

**Select cleansing method**

- **NO**
  - Hydrocolloid
  - Alginate + hydrocolloid

- **YES**
  - Hydrocolloid
  - Alginate + gauze, foam, other absorbers

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**Select appropriate debridement**

- **NO**
  - Hydrogel + gauze
  - Wet-damp gauze
  - Alginate + hydrocolloid

- **YES**
  - Hydrogel + gauze
  - Wet-damp gauze
WOUND ASSESSMENT TIPS

Always follow your agency guidelines for wound assessment and documentation.

These tips will assist you to make your assessment and documentation more accurate and complete:

- FREQUENCY: A complete wound assessment should be performed every seven days.
- MEASUREMENT: Document the three measurements.
  - LENGTH: Should be measured at widest points closest to the “head to toe” (or 12 and 6 o’clock) position.
  - WIDTH: Should be measured closest to the greatest “side to side” (or 3 and 9 o’clock position).
  - DEPTH: Either deepest depth or depth range.
- SHAPE: If the wound is irregularly shaped, note that finding.
- TUNNELS AND UNDERMINING: Note where they are using clock positions and how far they extend. For example: “Tunnel at 4 o’clock extends 3.2 cm” and “Undermining from 7-10 o’clock extends 1.2-4 cm.”

BASE TISSUE TYPES: Clean, granular, eschar, soft necrotic, slough. Estimate percentages.

EXUDATE: Color, odor, and amount. Note character of odor and whether it remains or subsides with cleansing (odor that remains may be a sign of infection). Describe exudate amount as percentage absorbed into dressing. Increased exudate amount and change in color may indicate infection.

PERI-WOUND SKIN CONDITION: If there is inflammation, measure how far it extends and whether it is symmetrical or asymmetrical (asymmetrical may indicate infection), maceration, adhesive injury, or rash.

PAIN: Character, duration, onset triggers, comparison to baseline (increased pain might indicate infection).

NEGATIVE PRESSURE: When using negative pressure dressings, always document the number of foam pieces removed and inserted.

Use your wound assessment findings to shape your wound care plan.

WHY ISN’T THE WOUND HEALING?

Consider these issues and strategize to minimize their impact:

- COMORBIDITIES: That impact tissue oxygenation, immune status, and available metabolic resources will impact wound progress. These can include but are not limited to acute/chronic respiratory condition, diabetes, cancer with chemotherapy, arterial disease, autoimmune disorders and infections.
- NUTRITION: Calories, protein, vitamins and minerals are required for healing.
- TISSUE LOAD MANAGEMENT: Includes bed and chair surfaces as well as positioning plan.
- WOUND BIOBURDEN ISSUES: Both asymptomatic critical colonization and wound infection.
- % OF SLOUGH, FIBERIAN OR ESCHAR: Consult with physician on sharps debridement; consider enzymatics or debridement using mechanical cleansing.
- WOUND CLEANSING: Wound base and all tunnels and undermining must be thoroughly flushed to remove bacteria and debris.

ADVANCED WOUND DRESSING:

<table>
<thead>
<tr>
<th>DRESSING TYPE</th>
<th>WHAT IT DOES</th>
<th>APPROPRIATE FOR….</th>
<th>OK TO COMBINE WITH….</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALGINATES</td>
<td>Absorbs exudate</td>
<td>Wounds with moderate to heavy exudate</td>
<td>• Gauze  • Foam  • Hydrocolloids  • Films</td>
</tr>
<tr>
<td>Seaweed based, some types form thick liquid, some a soft intact gel when wet</td>
<td>Forms soft gel that protects wound bed</td>
<td>Wounds with no depth</td>
<td>Change as needed, usually 2-3x per week</td>
</tr>
<tr>
<td></td>
<td>Facilitates debridement by holding moisture next to nonviable tissue</td>
<td>Filling tunnels, undermining &amp; depth</td>
<td></td>
</tr>
<tr>
<td>HYDROGELS</td>
<td>Adds moisture</td>
<td>Dry wounds</td>
<td>• Gauze  • Sheets</td>
</tr>
<tr>
<td>May be water based, glycerin based, or aloe based depending on brand</td>
<td>Reduces wound pain</td>
<td>Wounds with dead tissue</td>
<td>Change 2x per week</td>
</tr>
<tr>
<td>Available in sheets, impregnated gauze, amorphous in tube</td>
<td>Facilitates debridement by holding moisture</td>
<td>Impregnated gauze may be used to fill in tunnels, undermining and depth</td>
<td>Impregnated gauze, amorphous Change daily or per manufacturer guidelines</td>
</tr>
<tr>
<td>FOAMS</td>
<td>Absorbs exudate</td>
<td>Wounds with moderate to heavy exudate</td>
<td>• Alginates  • Collagens</td>
</tr>
<tr>
<td>Are non-occlusive, allow moisture vapor to freely transfer out from the wound</td>
<td>Reduces pain with removal</td>
<td>Wounds with no depth</td>
<td>Change as needed, usually 2-3x per week</td>
</tr>
<tr>
<td>HYDROCOLLOIDS</td>
<td>Adds moisture</td>
<td>Dry shallow wounds</td>
<td>• Alginates  • Collagens</td>
</tr>
<tr>
<td>Occlusive, exudate combines with dressing to form a soft gel that protects the wound base</td>
<td>Absorbs exudate</td>
<td>Shallow wounds with light to moderate exudate</td>
<td>Change as needed, usually 2-3x per week</td>
</tr>
<tr>
<td></td>
<td>Promotes autotypic debridement</td>
<td>Wounds with dead tissue</td>
<td></td>
</tr>
<tr>
<td>TRANSPARENT FILMS</td>
<td>Promotes autotypic debridement</td>
<td>Dry shallow wounds</td>
<td>• Gauze  • Alginates  • Collagens</td>
</tr>
<tr>
<td>Semi occlusive, allows some moisture vapor transfer</td>
<td>Triggers increased exudate</td>
<td>Wounds with nonviable disuse</td>
<td>Change as needed, usually 2-3x per week (w/gauze change daily)</td>
</tr>
<tr>
<td>WOUND NON-CONTACT LAYER</td>
<td>Protects wound bases from injury</td>
<td>Fragile wound bases</td>
<td>• Gauze  • Alginates  • Collagens</td>
</tr>
<tr>
<td>Impregnated mesh intended to protect wound base from injuries</td>
<td>Reduces pain with dressing removal</td>
<td>Skin tears</td>
<td>Change as needed, Usually 2-3x per week</td>
</tr>
<tr>
<td></td>
<td>Freely moves fluid through to the cover dressing</td>
<td>Painful wounds</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Skin graft donor sites</td>
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<td></td>
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<tr>
<td></td>
<td>Abrasions</td>
<td>Abrasions</td>
<td></td>
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</tbody>
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