Management of Pressure Injuries

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Assessment
Past medical history
Family Medical history
Socioeconomic factors
Current physical assessment
Diagnostic test
Assessment

- Current or past therapies
  - What worked
  - What failed
  - Why did the therapy fail

- Psychosocial issues
Pressure Injury Formation
• Pressure injury occurs when the blood vessel is compressed from opposing forces
• Pressure injury can occur in as little as 15 minutes
Factors related to PI Development

• Pressure
• Shear
• Friction
• Moisture
Impact of Pressure Injury - Patient

- Quality of Life
- Pain and Suffering
- Cost
- Loss of productivity
- 2.5 million affected
- 60,000 patients die / year as a result
NPUAP Changes in Staging

- NPUAP consensus meeting held April 2016
- Evidence Based Practice
- International Agreement
- Adopted by Joint Commission
Pressure Ulcer changes to Pressure Injury

Pressure Injuries present as both intact & open wounds.

The change in terminology more accurately describes pressure injuries to both intact and ulcerated skin.
Pressure Ulcer Injury

• The injury occurs as a result of intense and/or prolonged pressure 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, comorbidities and condition of the soft tissue.
Stage 1 Pressure Injury: Non-blanchable erythema of intact skin

- Intact skin with localized area of non-blanchable erythema, which may appear differently in darkly pigmented skin.
Stage 1 Pressure Injury: Non-blanchable erythema of intact 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
Stage 1 Pressure Injury
Stage One
Stage 2 Pressure Injury

Partial thickness loss of skin with exposed *viable* dermis
Stage Two
Stage Two

- INTACT
- Serous Filled Blister over a boney prominence
Stage 3: Full Thickness Loss

- Full-thickness loss of *skin*, in which *adipose* (fat) is *visible in the ulcer and granulation tissue* and *epibole* (rolled wound edges) are often present.
Stage 3: Full Thickness Loss

- Undermining and tunneling *may occur.*

- *Fascia,* muscle, tendon, *ligament,* cartilage and/or bone are not exposed.

- *If slough or eschar obscures the extent of tissue loss this is an Unstageable Pressure Injury.*
Stage Three
Stage Three
Stage 4: Full Skin & Tissue Loss

- Full thickness *skin* & tissue loss with exposed or *directly palpable fascia*, muscle, tendon, ligament, cartilage or bone in *the ulcer*.
- Slough / eschar may be *visible*.
- *Epibole*, undermining / tunneling often occur.
- Depth varies by anatomical location.
- If slough/eschar *obscures* the extent of tissue loss = UNSTAGABLE Pressure Injury
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.

- *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 **softened** or removed.
Unstageable Pressure Injury
Deep Tissue Pressure Injury:
Persistent non-blanchable deep red, maroon or purple discoloration
Deep Tissue Pressure Injury

- 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
Deep Tissue Pressure Injury

- Pain and temperature change often precede skin color changes.

- This injury results from intense and/or prolonged pressure and shear forces at the bone-muscle interface.
Deep Tissue Pressure Injury

- May evolve rapidly to reveal the actual extent of tissue injury, or may resolve without tissue loss.

- 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).
Deep Tissue Pressure Injury

- Discoloration may appear differently in darkly pigmented skin.
- Do not use DTPI to describe vascular, traumatic, neuropathic, or dermatologic conditions.
Medical Device Related Pressure Ulcer

✓ This describes the etiology of the injury

✓ Result from the use of devices designed and applied for diagnostic or therapeutic purposes.

✓ The injury generally conforms to the pattern of the device.

✓ Use the staging system to stage
Mucosal Membrane Pressure Injury:

• 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.
Mucosal Tissues

Heal by regeneration
Perineal Dermatitis – IAD/MAD

- Skin irritation that occurs most commonly from urinary or fecal incontinence
- Leads to inflammation, erosion and/or secondary infection
- Usual Location
  - Perineum, buttocks and upper thighs
- Associated Skin Assessment
  - Mild erythema of the skin to dark red skin
  - Deepened skin color in persons with darker skin
Perineal Dermatitis

• Associated Wound Assessment
  – Blistering and erosion and serous exudate

• Secondary infection such as Candida
  – Vesicles with satellite lesions
  – Scaling
    • Reddened or hypo-pigmented scaly areas
IAD
Topical Management Principles

Control or eliminate factors that impair wound healing

*Pressure Reduction*

1. Pressure Redistribution mattress and or/chair cushion

• 2. Turning schedule
Low Air Loss
Pressure redistribution with gentle flow of air.
Cover minimizes friction and shear forces
Available in static and alternating. Alternating cells inflate and deflate.
Immersion Mattress

Patient immerses into mattress
Available with low air loss
Customize to patient
Self adjusting technology
Inflation of cells adjust with patient movement
Air fluidized therapy

- Pt immerses into bead like substance
- High air flow
- Difficult to get in and out of bed > limits rehab
- Prevents friction and Shear
- Can dessicate wounds
Pressure Reduction

3. Local Pressure Relief

4. Off Loading and Contact Casting

5. Orthotic footwear
Nutrition

- Maintain adequate nutrition
- Maintain adequate hydration
- Glucose control in Diabetics
- Vitamin and mineral supplementation if deficient
- Nutritional consultation and supplementation if identified deficiencies.
Prevent and Manage Infection
Topical Treatment

- Debride necrotic tissue

- 1. Sharp or Surgical
- 2. Mechanical
- 3. Autolytic
- 4. Enzymatic
- 5. Biological
Gauze

- Used as a primary or secondary dressing
- Wet to moist gauze dressings should be used on healthy wound beds
- Wet to dry dressings should only be used to mechanically debride wounds
Wound Gels

- Water or glycerin based
- Trauma free removal
- Rehydrates wound bed
- Softens/loosens necrotic tissue
- Supports autolytic debridement
- Available in silver formulation and therapeutic medical grade honey
Wound Gel Indications for Use

- Stage 2, 3, 4 or Unstageable (Eschar)
- Dry Wound Bed
- Can be combined with topical antimicrobials if indicated
- Appropriate for Palliative wounds minimizes pain and less frequent dressing changes
Hydrocolloids

- Maintain moist environment
- Occlusive
- Acidic environment
- Forms a gel over wound bed
- Less frequent dressing changes
Hydrocolloid Indications for use

- Stage 1 pressure injuries
- Stage 2 Pressure Injuries with minimal exudate
- Stage 3 or 4 Pressure Injuries in conjunction with a wound filler
- Unstageable Pressure Injuries to promote autolytic debridement
Alginates/Hydrofibers

- Highly absorbent
- Maintains moist environment
- Easily conforms
- Use on heavily exuding wounds
- Available in silver formulations and therapeutic medical grade honey
Alginate/Hydrofiber Indications for use

- Heavily Exudating Stage 2, 3, 4 Pressure Injuries
- Can be used on low exudating wounds if moistened prior to application
- Used frequently in home care to reduce number of dressing changes
Contact Layers

• Single layer/woven net
  Low adherent material when applied to wound surface
• Ideal for skin tears
• Protects wound from trauma
Hydrophilic Foam

- Sponge-like Silicone adhesive
- Highly absorptive properties
- Provides cushion
- Used for prevention
- Can be used as a cover dressing for highly exudating wounds or as a primary dressing all stages
Antiseptics/Antimicrobials

- Indicated for critically colonized or infected wounds
- Short term use recommended
- Examples: Povidone Iodine, Acetic acid,
- Sodium Hypochlorite Solution, Cadexomer of Iodine
Silver Dressings

- Used to reduce bioburden
- Available in most types of dsg
- Requires less frequent dressing changes
- May prevent critical colonization and infection
- Available in textile for skin fold management
Negative Pressure Wound Therapy

- Less frequent dressing changes
- Removes excess exudate
- Mechanically pulls wound edges together
Barrier Ointments/Creams

• Zinc or Petroleum Based
• Used to treat and prevent moisture or incontinence associated moisture dermatitis
• Can be used on periwound skin of wounds to protect
Adjunctive Therapies

• Platelet-derived growth factors
• Electrical Stimulation
• Collagen Products
• Surgical Repair