

BASIC WOUND CARE

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Wound classification and healing



Home Health Foundation

The Leaders in Home Health and Hospice Care

Early Interventions to Maintain Healthy Skin

- ▶ Protection- protecting the skin against adverse effects
 - ▶ Sunscreen
 - ▶ Hydration
 - ▶ Nutrition
 - ▶ Good hygiene
 - ▶ Healthy weight
 - ▶ Exercise
 - ▶ Repositioning

Early Interventions to Maintain Healthy Skin

- ▶ Identify individuals who are at risk
 - ▶ Braden scale
 - ▶ Part of SOC OASIS
 - ▶ Can use Braden Scale anytime
- ▶ Reduce the incidence of skin break down through continued education to:
 - ▶ Patients
 - ▶ Family
 - ▶ Medical team
 - ▶ Caregivers

Braden Risk Assessment Scale

- ▶ Individuals with a total score of 16 or less are considered at risk:
- ▶ 15-18 = low risk, 13-14 = moderate risk, 12 or less = high risk.
- ▶ Document risk assessment upon admission or on first home visit.
- ▶ Reassess if there is a change in individual's condition and repeat regularly according to protocol

BRADEN SCALE

<p>Sensory Perception - Ability to respond meaningfully to pressure related discomfort</p>	<p><u>1. Completely Limited</u> Unresponsive (does not moan, flinch or grasp) to painful stimuli, due to diminished level of consciousness or sedation. OR limited ability to feel pain over most of body surface.</p>	<p><u>2. Very Limited</u> Responds only to painful stimuli. Cannot communicate discomfort except by moaning or restlessness. OR has a sensory impairment that limits the ability to feel pain or discomfort over ½ of body.</p>	<p><u>3. Slightly Limited</u> Responds to verbal commands, but cannot always communicate discomfort or need to be turned. OR has some sensory impairment that limits ability to feel pain or discomfort in 1 or 2 extremities.</p>	<p><u>4. No Impairment</u> Responds to verbal commands. Has no sensory deficit that would limit ability to feel or voice pain or discomfort</p>
<p>Moisture - Degree to which skin is exposed to moisture</p>	<p><u>1. Constantly Moist</u> Skin is kept moist almost constantly by perspiration, urine, etc. Dampness is detected every time patient/ client is moved or turned.</p>	<p><u>2. Very Moist</u> Skin is often, but not always, moist. Linen must be changed at least once a shift.</p>	<p><u>3. Occasionally Moist</u> Skin is occasionally moist, requiring an extra linen change approximately once a day.</p>	<p><u>4. Rarely moist</u> Skin is usually dry. Linen only requires changing at routine intervals.</p>

BRADEN SCALE

<p>Activity - Degree of physical activity</p>	<p><u>1. Bedfast</u> Confined to bed</p>	<p><u>2. Chairfast</u> Ability to walk severely limited or non-existent. Cannot bear own weight and/or must be assisted into chair or wheelchair.</p>	<p>3. Walks Occasionally Walks occasionally during day, but for very short distances, with or without assistance. Spends majority of each shift in bed or chair.</p>	<p>4. Walks Frequently Walks outside the room at least twice a day and inside the room every 2 hours during waking hours.</p>
<p>Mobility - Ability to change and control body position</p>	<p>1. Completely Immobile Does not make even slight changes in body or extremity position without assistance.</p>	<p>2. Very Limited Makes occasional slight changes in body or extremity position but unable to make frequent or significant changes independently.</p>	<p>3. Slightly Limited Makes frequent though slight changes in body or extremity position independently.</p>	<p>4. No Limitations Makes major and frequent changes in position without assistance.</p>

BRADEN SCALE

<p>Nutrition - Usual food intake pattern</p>	<p>1. Very Poor Never eats a complete meal. Rarely eats more than 1/3 of any food offered. Eats 2 servings or less of protein (meat or dairy products) per day. Takes fluids poorly. Does not take a liquid dietary supplement. OR is NPO and/or maintained on clear liquids or IV's for more than 5 days</p>	<p>2. Probably Inadequate Rarely eats a complete meal and generally eats only about ½ of any food offered. Protein intake includes only 3 servings of meat or dairy products per day. Occasionally will take a dietary supplement. OR receives less than optimum amount of liquid diet or tube feeding.</p>	<p>3. Adequate Eats over half of most meals. Eats a total of 4 servings of protein (meat, dairy products) each day. Occasionally will refuse a meal, but will usually take a supplement if offered. OR is on a tube feeding or TPN regimen which probably meets most of nutritional needs.</p>	<p>4. Excellent Eats most of every meal. Never refuses a meal. Usually eats a total of 4 or more servings of meat and dairy products. Occasionally eats between meals. Does not require supplementation</p>
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BRADEN SCALE

<p>Friction and Shear</p>	<p>1.Problem Requires moderate to maximum assistance in moving.</p>	<p>2.Potential Problem Moves feebly or requires minimum assistance. During a move, skin probably slides to some extent against sheets, chair restraints, or other devices. Maintains relatively good position in chair or bed most of the time, but occasionally slides down.</p>	<p>3.No Apparent Problem Moves in bed and in chair independently and has sufficient muscle strength to lift up completely during move. Maintains good position in bed or chair at all times.</p>	
<p>Indicate appropriate number and add for total score</p>				<p>Total Score:</p>

Types of Wounds

- ▶ Arterial
- ▶ Venous
- ▶ Diabetic
- ▶ Pressure Injuries

Risk Factors Associated with Arterial Ulcers

- ▶ Atherosclerosis
- ▶ Premature Atherosclerosis
- ▶ Trauma
- ▶ Entrapment Syndrome
- ▶ Systolic Hypertension
- ▶ Diabetes Mellitus

Risk Factors Associated with Venous Ulcers

- ▶ Venous Insufficiency
- ▶ Deep Vein Thrombosis
- ▶ Multiple Pregnancies
- ▶ Edema
- ▶ Ascites
- ▶ Obesity
- ▶ CHF
- ▶ Congenital Anomalies
- ▶ Severe Trauma to the Legs
- ▶ Tumors
- ▶ Sedentary Lifestyle

Risk Factors Associated with Diabetic Ulcers

- ▶ Sensory Neuropathy
- ▶ PVD
- ▶ Abnormal Foot Pressures
- ▶ Structural Foot Deformity
- ▶ Hypertension
- ▶ Hyperlipidemia
- ▶ Hyperglycemia

Risk Factors Associated with Pressure Injuries

Intrinsic

- ▶ Aging
- ▶ Chronic Disease
- ▶ Impaired mobility
- ▶ Incontinence
- ▶ Malnutrition
- ▶ Sensory Impairment

Extrinsic

- ▶ Pressure
- ▶ Friction
- ▶ Shearing
- ▶ Moisture

Braden Scale helps delineate specific risk factors for each patient and define level of risk.

Pressure Injuries

- ▶ Localized area of tissue necrosis that tends to develop when soft tissue is compressed between a bony prominence and an external surface for a prolonged period of time.

WOUND CHARACTERISTICS

▶ Arterial Wounds

- Usually distal
- Small
- Round
- Usually shallow
- Pale base
- Smooth edges
- Waxy appearance



WOUND CHARACTERISTICS

- ▶ Venous Wounds
 - Above malleolus
 - Size varies
 - Irregular shape
 - Irregular edges



WOUND CHARACTERISTICS

- ▶ Diabetic Wounds
 - ▶ Pressure points on foot
 - ▶ Size varies
 - ▶ Usually round
 - ▶ Depth varies
 - ▶ Variable base
 - ▶ Smooth edges



Pressure Injuries

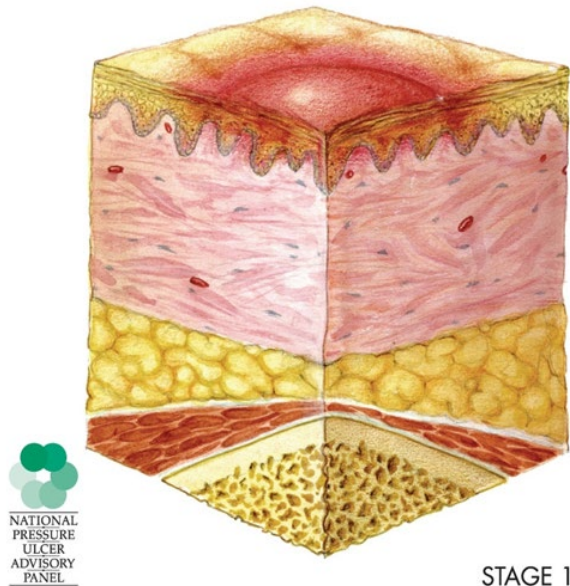
- ▶ Only pressure Injuries are staged.
- ▶ All other types of wounds should be described as either partial or full thickness, along with further description of the wound.
- ▶ Reverse staging or downsizing of a wound is inappropriate. (a stage 3 doesn't heal to a stage 2)
- ▶ The tissue replaced in a wound space is not the same as the tissue lost.

WOUND CHARACTERISTICS

▶ Pressure Injuries

▶ Stage 1:

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



STAGE 1



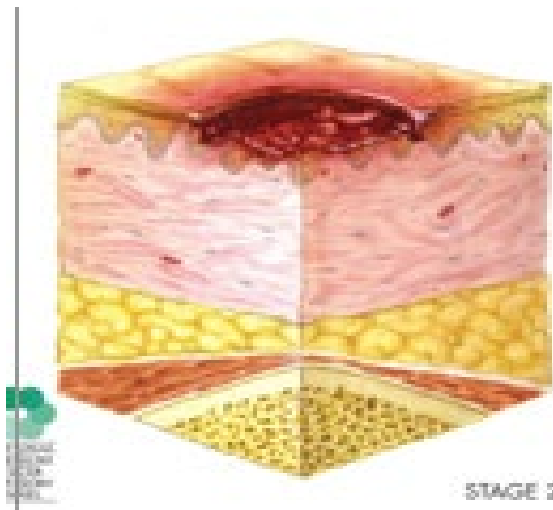
WOUND CHARACTERISTICS

► Stage 2:

Partial thickness loss of dermis presenting as a shallow open ulcer, *without* slough.

May also be present as an intact or open serum-filled blister

May present as a shiny or dry shallow ulcer without slough or bruising



WOUND CHARACTERISTICS

► Stage 3:

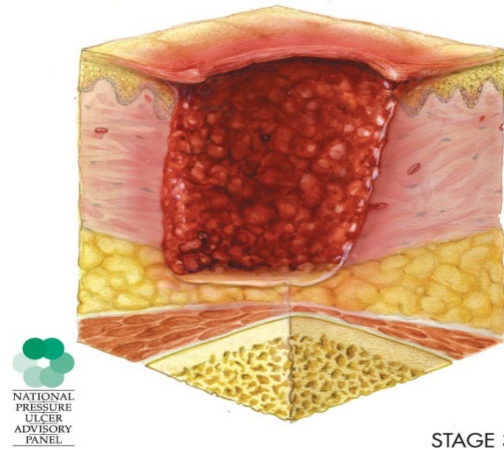
Full thickness tissue loss

Subcutaneous fat may be present

No exposure of bone, tendon, or muscle

Slough may be present

Undermining and tunneling may be present



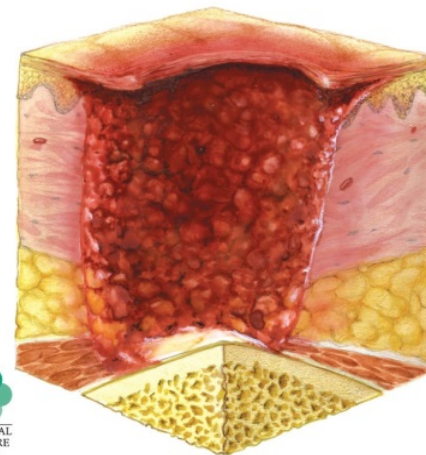
WOUND CHARACTERISTICS

► Stage 4:

Full thickness tissue loss with exposed bone, tendon, or muscle.

Slough or eschar may be present on some parts of the wound.

Tunneling or undermining may be present.



Wound Characteristics

For wounds other than pressure injuries:

- ▶ **Partial thickness**

- Confined to the skin layers

- Damage does not penetrate below the epidermis

- May be limited to the epidermal layers only

- ▶ **Full thickness**

- Tissue damage involving total loss of epidermis and dermis and extending into the subcutaneous tissue and possibly into the muscle or bone.

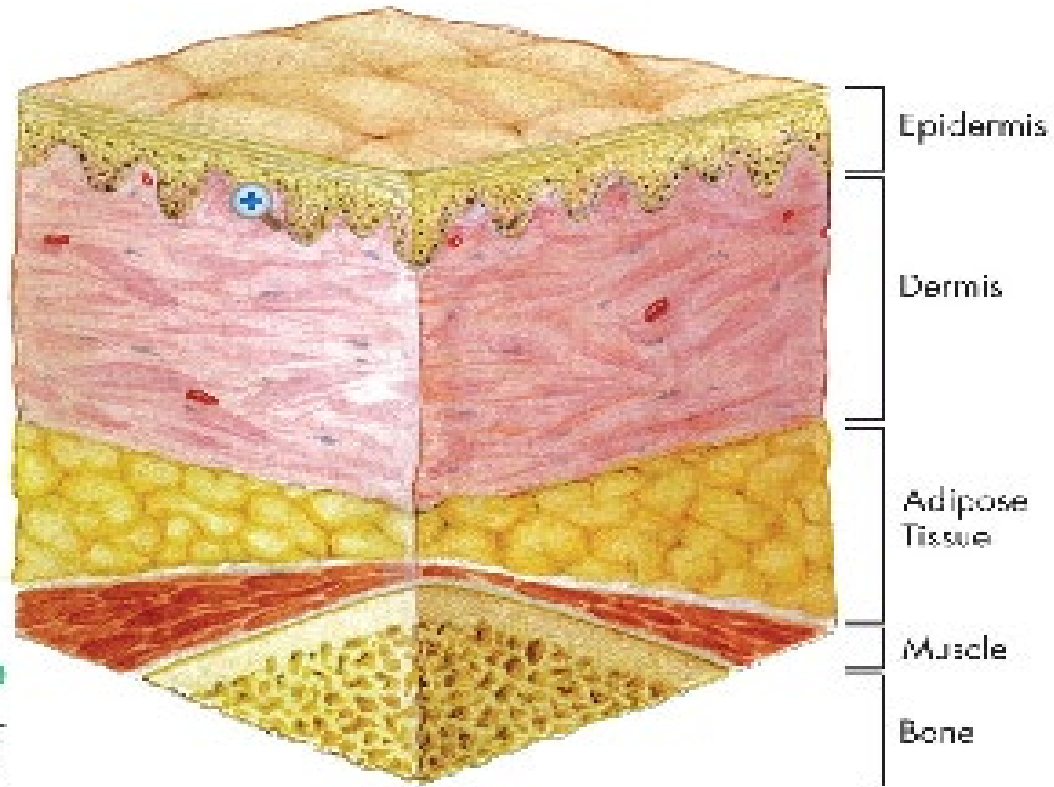
Wound Severity

Non-pressure injuries describe the wound as:

- ▶ limited to skin breakdown,
- ▶ fat layer exposed,
- ▶ muscle involvement,
- ▶ bone involvement,
- ▶ necrosis

Wound Characteristics

Thickness

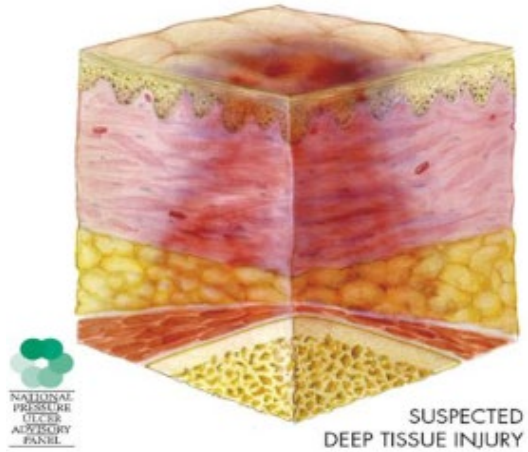


Deep Tissue Injury

Deep tissue injury is a term to describe a unique form of pressure injury. These injuries have been described by clinicians for many years with terms such as ‘purple pressure areas’

- ▶ Present as dark purple or maroon bruises
- ▶ The skin is intact with no drainage or open areas
- ▶ They present over a bony prominence
- ▶ These can also be blood filled blisters
- ▶ Likely caused by friction and shear or pressure
- ▶ Likely to deteriorate

Deep Tissue Injury



Moisture /incontinence skin injury

- ▶ **Moisture-associated skin damage** is defined as "inflammation and erosion of the skin caused by prolonged exposure to moisture and its contents, including urine, stool, perspiration, wound exudate, mucus, or saliva."



Moisture /incontinence skin injury

Table 1. Moisture-associated skin damage

Type	Cause
Incontinence-associated dermatitis	Urine or faeces (particularly liquid stool)
Peristomal moisture-associated dermatitis	Stomal output
Intertriginous dermatitis	Perspiration
Periwound moisture-associated dermatitis	Wound exudate



Figure 6. Irritant contact dermatitis caused by leakage under the skin barrier (*peristomal moisture-associated skin damage*).

Surgical Wounds

- ▶ Surgical wounds, remain for Oasis purposes for 30 days before they may be considered healed, removed from the chart and no longer documented on.
- ▶ The Centers for Medicare and Medicaid Services (CMS) provide guidance regarding what is and is not considered a surgical wound.

Is this A Surgical Wound?

YES!

- ✓ **Central line site** (even if not presently functional)
- ✓ **Mediport sites** (even if not presently functional)
- ✓ **Implanted infusion device** (even if not presently functional)
- ✓ **Venous access device** (even if not presently functional)
- ✓ **Left Ventricular Assist Device (LVAD)** exit site
- ✓ **Most surgical** (even after the drain is removed)
- ✓ **Muscle flap** (replaced pressure ulcer)
- ✓ **Shave, punch or excisional biopsy site**
- ✓ **Skin graft donor site**
- ✓ **Incisions**
- ✓ **Orthopedic pin sites**
- ✓ **Wounds with drains**

Is this A Surgical Wound?

YES!

- ✓ **Surgical procedure performed via arthroscopy**
- ✓ **Paracentesis site (if drain placed)**
- ✓ **Peritoneal dialysis catheter (exit site)**
- ✓ **Wound created when an ostomy is reversed or taken down**
- ✓ **I&D only if there was excision of necrotic mass, mesh, or other appliances or structures (beyond a simple I&D)**
- ✓ **Trauma that resulted in surgery to repair ruptured organs, torn tendons, ligaments or muscle, fractures (beyond simple sutured traumatic laceration)**
- ✓ **Incision or “cut-down” created to perform a procedure per femoral sheath**

Is This A Surgical Wound?

NO!

- × **Ostomies** (all openings that end in “ostomy”, e.g. tracheostomy, gastrostomy, colostomy, cholecystostomy, cystostomy, jejunostomy, Ileostomy, thoracostomy, urostomy, etc)
- × **An ostomy closing on its own** (without surgical reversal)
- × **The surgical line around a fresh ostomy stoma** (the peristomal or mucocutaneous suture line)
- × **Debridement** (doesn't change a burn, pressure ulcer, stasis ulcer, traumatic wound, etc. into a surgical wound)
- × **Simple I&D**
- × **Cardiac Catheterization** performed via needle puncture (even if stents placed)
- × **PICC's** (peripherally inserted central catheters), even if insertion required fluoroscopy
- × **Peripheral IVs** sutured in place

Is This A Surgical Wound?

NO!

- × **Implanted pacemakers or internal defibrillators** (after original incision has healed)
- × **Arthrocentesis/thoracentesis/paracentesis** sites utilized for simple aspiration of fluid
- × **Pressure injuries sutured shut**
- × **Traumatic lacerations**
- × **Skin graft recipient site**
- × **Enterocutaneous fistula**
- × **Gynecological surgery-vaginal approach**
- × **Surgical incision created to perform surgery then used by surgeon to insert chest tube when incision was closed**
- × **Chest tube site** with or without a drain or a tube
- × **Surgeries to the mucous membranes**
- × **VP shunt after the incision heals**
- × **Cataract surgery**
- **Removal of callus**

Wound Healing

Primary intention

- ▶ Wounds that heal by primary intention:
 - ▶ Superficial wounds that involve only the epidermis with no loss of dermal tissue - a superficial (first or second degree) burns for example.
 - ▶ A wound that has well-approximated edges (edges that can be pulled together to meet neatly), such as a surgical incision.
- ▶ Surgical wounds usually heal in 4 to 30 days and result in minimal scarring.
 - ▶ No loss of tissue and little risk of infection, the healing process is predictable



Wound Healing

- ▶ In **OASIS**, a surgical wound is closed with sutures, staples, or a chemical bonding agent.
- ▶ Observe if the incision has re-epithelialized.
 - ▶ If there is no interruption in the healing process, this generally takes within a matter of hours to *three* days.
- ▶ Documented as a surgical wound **until re-epithelialization has been present for 30 days**, unless it dehisces or presents signs of infection.
- ▶ After **30 days** have passed without complications, it is generally described as a scar and should not be included in documentation as a surgical wound.

Wound Healing

- ▶ In **OASIS** a wound is considered not observable if it is covered by a dressing or cast which is not to be removed per physician order.
- ▶ A surgical wound can heal by **secondary intention** if there is incisional separation
 - ▶ Only then can a surgical incision be reported as granulating.
 - ▶ Otherwise it is **Not Healing OR Newly Epithelialized**

Wound Healing

Secondary intention

- ▶ Wounds that involve some degree of tissue loss with edges that can't be easily approximated heal by secondary intention. Depending on a wound's depth, it can be described as partial thickness or full thickness:
- ▶ Partial-thickness wounds extend through the epidermis and into, but not through, the dermis.
- ▶ Full-thickness wounds extend through the epidermis and dermis and may involve subcutaneous tissue, muscle and, possibly, bone.

Wound Healing

Tertiary intention

Also called *delayed primary intention*

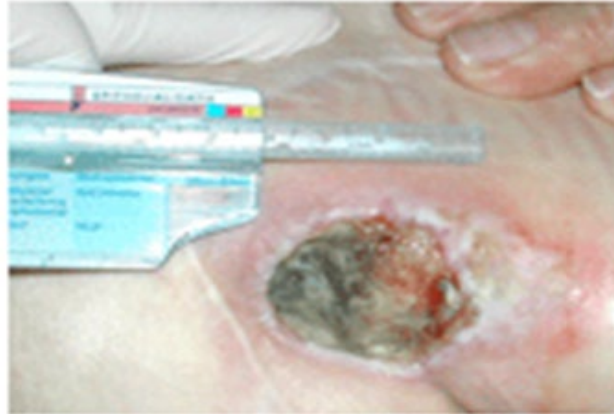
- ▶ Wounds that are **intentionally kept open** to allow edema or infection to resolve or to permit removal of exudate heal by tertiary intention.
- ▶ These wounds are later closed with sutures, staples or adhesive skin closures.
- ▶ Wounds that heal by tertiary intention often result in more scarring than wounds that heal by primary intention but less than wounds that heal by secondary intention

Wound Healing

Not healing wounds

- ▶ Wound with 25% avascular tissue (eschar and/or slough) OR
- ▶ Signs/symptoms of infection OR
- ▶ Clean but non-granulating wound bed OR
- ▶ Closed/hyperkeratotic wound edges OR
- ▶ Persistent failure to improve despite appropriate comprehensive wound management

Necrotic Tissue



Fibrinous Slough



Wound Healing Secondary Intention

Early/partial granulation

- ▶ 25% of the wound bed is covered with granulation tissue
- ▶ < 25% of the wound bed is covered with avascular tissue (eschar and/or slough)
- ▶ No signs or symptoms of infection
- ▶ Wound edges open



Wound Healing Secondary Intention

Fully granulating

- ▶ Wound bed filled with granulation tissue to the level of the surrounding skin
- ▶ No dead space
- ▶ No avascular tissue (eschar and/or slough)
- ▶ No signs or symptoms of infection
- ▶ Wound edges are open

Granulation Tissue



Wound Healing

Primary/Secondary Intention

Newly epithelialized

- ▶ Wound bed completely covered with new epithelium
- ▶ No exudate
- ▶ No avascular tissue (eschar and/or slough)
- ▶ No signs or symptoms of infection



Wound Healing progression

