

Wound Assessment

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WOUND ASSESSMENT

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Notes:

Objectives:

Upon completion of this program, the participant will be able to:

- 1) Describe the elements of a wound assessment.
- 2) Identify pressure ulcers utilizing the 2007 NPUAP staging guidelines
- 3) Identify tissue types commonly found in wounds.
- 4) Document comprehensive wound assessment.

Outline

- I. Patient History
 - A. How long has wound been present
 - B. Treatment history to date
 - C. What types of health-care providers have been involved in the management of the wound
 - D. History of previous wounds
- II. Holistic Assessment - Holism is the theory that certain 'wholes' are to be regarded as greater than the sum of their parts and the treating of the whole person rather than just the symptoms of the wound,
- III. Co-morbidities – Patient's capacity to heal can be limited by specific disease effects on tissue integrity and perfusion, mobility, compliance, nutrition and risk for infection.
 - A. Diabetes
 1. abnormal glucose levels are not compatible with wound healing
 2. decreased sensation in feet high risk for breakdown
 - B. Vascular
 1. Coronary Artery Disease – decreased circulating oxygen
 2. Congestive Heart Failure – edema in lower extremities
 3. Peripheral Vascular Disease – inadequate vascular support
 4. Peripheral Arterial Disease – inadequate arterial support
 - C. Cancer
 1. Radiation – high risk or may cause skin breakdown
 2. Antineoplastic medications impair wound healing
- IV. Systemic factors affecting healing
 - A. Adequacy of oxygen saturation
 - B. Age
 - C. Medications – Prednisone, Tamoxifen, non-steroidal anti-inflammatory drugs
 - D. Lab data – albumin, protein, CBC, total lymphocyte count
 - E. Nutritional Deficiencies
 1. Current Weight/Normal weight
 2. Eating habits
 3. Risk for malnutrition
- V. Psychosocial Assessment
 - A. Determine ability to comprehend the treatment regime

Notes:

- B. Review
 1. Mental status
 2. Ability to learn, barriers, learning style
 3. Depression
 4. Social support
 5. Poly-pharmacy
 6. Alcohol/drug abuse
 7. Goals/values/lifestyle
 8. Culture ethnicity
 9. Sexuality
 10. Stressors
 11. Altered body image
 12. Consequences of wound, e.g. work loss, cost of treatment,
 13. Child care
- VI. Identification of environmental factors that may affecting healing/cause
 - A. Living Environment
 - B. History of travel/epidemic exposure (fungal parasite causes)
 - C. Where patient spends the day – bed/chair? Activities?
 - D. Does shearing occur during transfer?
 - E. Are shoes tight? Old shoe – new shoes?
 - F. Tubing rubbing?
- VII. Assessment
 - A. Frequency
 1. Upon every dressing change/patient visit, and documented weekly at minimum.
 2. Wound reassessment and monitoring frequency/rationale are affected by the overall patient condition, wound severity, patient care environment, goal of care and plan of care.
 - B. Preparation
 1. Place patient in the same anatomical position each time wound assessment completed.
 2. Place the wound as far from sleep surface as possible.
 3. Clean and or irrigate the wound.
 4. Assess for new skin breakdown.
 - C. Physical Characteristics
 1. Determine anatomical wound location.
 2. Utilize correct anatomical descriptions and verbiage for documentation.
 - a. Superior – Up
 - b. Inferior – Down
 - c. Anterior – Front
 - d. Posterior – Back
 - e. Medial - Towards middle
 - f. Lateral - Away from middle
 - D. Wound Measurement - Linear
 1. Always measure & document in centimeters.
 2. Wound edge to wound edge in a straight line.
 3. Always measure Length first then measure width.
 4. Document - Length x Width x Depth

Wound Assessment

5. Consider wound as face of clock. 12:00 points to patients head, 6:00 points toward patient's feet.
 - a. Length = 12:00 – 6:00 using patients head & feet as guides
 - b. Width = 3:00 – 9:00 side to side
 - c. Measuring ulcers on the feet using the clock system – consider the heel as 12:00 and the toes as 6:00.
 - d. To obtain measurements, measure the longest 12-6 and 3-9 measurements and document.
6. Depth – distance from visible surface to the deepest area
 - a. Cotton tip applicator into deepest portion of wound
 - b. Grasp applicator with the thumb & forefinger at the point corresponding to the wounds margin
 - c. Withdraw applicator while maintaining the position of the thumb and forefinger
 - d. Measure from tip of applicator to position against centimeter ruler
 - e. Note: It may be helpful to take several measurements in different areas to determine the wound dimensions. Multiple measurements close together and recording the average may improve accuracy.
7. Tunneling/undermining – measure & document depth and direction.
 - a. Use cotton tip applicator and gently probe around wound edges in clockwise direction.
 - b. Once tunneling/undermining has been identified, insert applicator into the area.
 - c. Grasp the applicator where it meets the wound edge with thumb and forefinger.
 - d. Withdraw the applicator while maintaining the position of the thumb and forefinger.
 - e. Measure from tip of applicator to position against centimeter ruler.
8. Tissue Involvement
 - a. Partial Thickness – destruction of epidermis and dermis
 - b. Full Thickness – destruction of epidermis, dermis, subcutaneous and or deeper
9. Tissue types – Assess characteristics, amount (document in percentage) & location
 - a. Necrotic Tissue – dead; non-viable
 - 1) Slough – yellow, green, grey, nonviable (necrotic) tissue, usually lighter in color, thin, wet stringy
 - 2) Eschar – black, brown, dry, nonviable (necrotic) tissue, usually darker in color, thicker, hard
 - b. Epithelial tissue – deep pink to pearly pink, light purple from edges in full thickness wounds or may form islands in superficial wounds
 - c. Granulation tissue – beefy red, puffy or mounded bubbly appearance
 - d. Hypergranulation tissue – granulation tissue forms above the surface of the surrounding epithelium. Delays epithelialization.
 - e. Muscle – pink to dark red, firm, highly vascular, striated
 - f. Tendon – gleaming yellow or white, shiny when healthy, strong fibrous tissue, attaches muscle to bone

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- g. Fascia – covering over muscles, shiny, white, thin to thick, contains muscle or muscle group. Infections tend to slide/glide along the fascial plane. Fascia is a three dimensional web that surrounds every other tissue in the body. Fascia surrounds nerves, bone, arteries, veins as well as muscles. Fascia is the great organizer of the body, and organizes muscles into functional units. Scar tissue is fascia that is deposited in areas of injury.
- h. Bone – Shiny, smooth, milky white appearance when healthy
- 10. Adherence of Tissue
 - a. Non-adherent – easily separated from wound base
 - b. Loosely adherent – pulls away from wound, but attached to wound base
 - c. Firmly adherent – does not pull away from wound base
- 11. Color
 - a. Red – healthy, good blood flow
 - b. Pale pink – poor blood flow; ischemia, anemia
 - c. Purple – engorged; edema; excessive bioburden; trauma
 - d. Black or brown – nonviable, necrotic tissue
 - e. Yellow – nonviable, necrotic tissue
 - f. Gray – nonviable, necrotic tissue
 - g. Green – infection; nonviable tissue
 - h. White – ischemia; maceration, may be confused with bone or fascia
- 12. Exudate
 - a. Type
 - 1) Serous – thin clear watery plasma (seen in partial thickness wounds/venous ulcerations). Moderate to heavy amount may indicate heavy bio-burden or chronicity due to sub-clinical infection. Normal in the acute inflammatory stage
 - 2) Sanguinous – bloody (fresh bleeding) seen in deep partial thickness & full thickness wounds during angiogenesis. Small amount normal in the acute inflammatory stage.
 - 3) Serosanguineous- thin, watery, pale red to pink, plasma with RBC's
 - 4) Purulent – thick, opaque, tan, yellow, green or brown color, never normal in wound
 - b. Amount
 - 1) None – wound tissues dry
 - 2) Scant – wound tissues moist, no measurable drainage
 - 3) Small/minimal – wound tissues very moist/wet, drainage <25% of bandage
 - 4) Moderate – wound tissues wet, drainage involves 25 – 75% bandage
 - 5) Large/copious – wound tissues filled with fluid – involves >75% of bandage
- 13. Odor
 - a. Clean wound prior to assessment
 - b. Descriptors – strong, foul, pungent, fecal, musty, sweet
 - c. Causes – anaerobic bacteria may inhabit necrotic tissue and form protein and fatty acid end products; tissue necrosis with decreased blood flow; saturated wet dressings/bandages with necrotic exudates
- 14. Presence of Foreign Bodies
 - a. Sutures, staples, drain tubes, hardware

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- b. Environmental debris (wood, metal, dirt, asphalt, etc.)
- 15. Wound Edges/Margins (not periwound)
 - a. Defined/undefined
 - b. Attached or unattached
 - c. Fibrotic/callused/firm
 - d. Macerated/soft
 - e. Flush
 - f. Epibole (Epiboly) - Rolled/curled under edges. Epithelial tissue migrates down sides of the wound instead of across. Edges that roll over will ultimately cease in migration secondary to contact inhibition once epithelial cells of the leading edge come in contact with other epithelial cells
 - g. Tunneling – course or pathway that can extend in any direction from the wound, results in dead space with potential for abscess formation. (Can be distinguished from undermining by fact that tunneling involves a small portion of the wound edge whereas undermining involves a significant portion of the wound edge.)
 - h. Undermining – tissue destruction underlying intact skin along the wound margins; is the destruction of tissue or ulceration extending under the skin edges (margins) so that the wound is larger at its base than at the skin surface.
 - i. Sinus Tract - a discharging blind-ended track that extends from the surface of the skin to an underlying area or abscess cavity. Caused by the degradation of subcutaneous tissue in a linear manner with another wound opening at the other end of the tunnel.
 - j. Both tunneling and undermining are caused by shearing and forces against the wound.
- 16. Surrounding Tissue (Periwound Tissue)
 - a. Performed by inspection and palpation
 - b. Assess tissues within 4 centimeters of wound edge
 - c. Palpate for moisture, temperature, texture, turgor, pulses and mobility
 - d. Assess for color, induration, warmth, and edema around the wound
 - e. Observe for brawny edema, hyper or hypopigmentation, presence or absence of hair.
 - f. Observations:
 - 1) Erythema – redness may be from infection, irritation from drainage, urine/feces, dermatitis/trauma from tape or dressing. Redness from infection may be seen as diffuse and indistinct, or as intense with demarcated borders, red streaking. In dark skin, the skin may appear purple or a gray hue or deepening of the ethnic skin color.
 - 2) Edema and induration – observed as slight swelling and firmness at the wound edge. If accompanied by warmth, may indicate infection; induration is a hardened mass or formation with defined edges.
 - 3) Color changes: reddish skin tone – may reflect infection, blue or pallor – poor vascularity, brown staining – on leg reflects venous insufficiency
 - 4) Texture – excessive dryness and scaling is reflective of hyperkeratosis, weeping skin associated with acute condition

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- 5) Maceration – white wrinkled from excessive moisture
- 6) Temperature – normal temps range from cool to warm and is dependent upon vasoconstriction or vasodilatation; warmth may reflect infection or a new wound, cool reflect decreased circulation.
- 7) Scar – connective tissue reflective of dermal damage; new scars are pink and thick, over time become white and atrophic.
- 8) Ecchymosis – Non-blanchable discoloration of variable size may be caused by vascular wall damage, trauma, or vasculitis.
- 9) Lesions/rashes – Skin lesions should be described in terms of type, size, color, distribution, and configuration.

VIII. Identify Cause of wound

- A. Consider: Location, Shape, Tissue Type, Surrounding Tissue, Characteristics and History.
- B. Pressure Ulcers
 1. Pressure ulcers have rounded, crater-like shapes with regular edges
 2. Usually develop over a bony prominence and are therefore circular in shape, will however take on the shape of the object that caused the pressure
 3. Deep pressure ulcers usually have a dark-red wound base and do not bleed easily
 4. Often the periwound has non-blanchable erythema or, in dark-skinned clients, a deepening of natural color.
 5. Ninety-five percent of all pressure ulcers develop over these five classic locations noted by Sussman (1998): sacral/coccyx, greater trochanter, ischial tuberosity, heel, and lateral malleolus
 6. Staging system - Assessment system that classifies pressure ulcers based on anatomic depth of soft tissue damage. Developed by the NPUAP as method of communication between health care providers. Updated in February 2007.
 - a. 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.
 - b. 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)
 - c. 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 indicated suspected deep tissue injury

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- d. Stage III: Full thickness tissue loss. Subcutaneous fat may be visible but bone, tendon or muscle is 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.
 - e. 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.
 - f. Un-stageable: 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. *Copyright: NPUAP 2007“Reproduction of the National Pressure Ulcer Advisory Panel (NPUAP) materials document does not imply endorsement by the NPUAP of any products, organizations, companies, or any statements made by any organization or company.”*
7. Reverse Staging
- a. Pressure ulcers heal to progressively more shallow depth; they do not replace lost muscle, subcutaneous fat, or dermis before they re-epithelialize.
 - b. Instead, the ulcer is filled with granulation (scar) tissue composed primarily of endothelial cells, fibroblasts, collagen and extra-cellular matrix.
 - c. A Stage IV pressure ulcer cannot become a Stage III, Stage II, and/or subsequently Stage I. When a Stage IV ulcer has healed, it should be classified as a healed Stage IV pressure ulcer not a Stage 0 pressure ulcer. Therefore, reverse staging does not accurately characterize what is physiologically occurring in the ulcer.
- C. Friction is exerted on the surface of the skin, surfaces rubbing together, shallow epidermis only. Looks like Abrasion, Superficial laceration, shallow – Epidermis only; Edges undefined.
 - D. Shearing is an internal, opposing motion of tissue layers and bone. Shearing forces stretch or even tear the blood vessels, thereby reducing the amount of pressure

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- needed to occlude them. Shearing happens in response to external forces such as gravity, gravity & friction forces, elevation of hob, sliding down in chair
1. Not seen initially at skin level
 2. Jagged irregular borders
 3. Undermining
- E. Maceration/Incontinence - mechanical force that results from continued exposure of the skin to moisture, causing tissue softening. This leaves the skin's integrity more susceptible to the forces of shear, pressure and, especially, friction.
1. Types of skin breakdown related to moisture - not to be confused as a pressure ulcer
 - a. Perineal Dermatitis
 - 1) Other names: Incontinence associated dermatitis (IAD), irritant dermatitis, intertrigo, heat rash, and diaper rash when noted in children.
 - 2) Causes:
 - a) Inflammation of the skin from prolonged exposure to urine or stool.
 - b) Most common cause of nosocomial diarrhea *Clostridium difficile*
 - c) Regular use of an absorptive containment device such as an incontinence brief or pad, which raises the pH of the underlying skin and increases production of perspiration.
 - 3) The clinical characteristics:
 - a) Redness, blistering, denuded; lesions remain partial-thickness and free from necrosis (slough or eschar).
 - b) The areas of redness may be patchy or consolidated.
 - c) Dermatitis associated with urinary incontinence tends to occur in the folds of the labia majora in women or the scrotum in men, whereas perineal dermatitis associated with fecal incontinence tends to originate in the perianal area.
 - d) A full-thickness wound (tissue destruction into the subcutaneous tissue or deeper), with or without necrosis (slough or eschar), reflects ischemic tissue damage and would be classified as a pressure ulcer not as perineal dermatitis.
 2. Denuded - Loss of epidermis; Caused by exposure to feces, urine, body fluids, wound drainage or friction
- F. Trauma
1. Skin Tears - Result of friction and/or shearing forces; separate the epidermis from the dermis or separate both the epidermis and the dermis from underlying structures. Categorized using the Payne-Martin Classification.
 - a. Category I - skin tears without tissue loss. In a linear type Category I skin tear, the epidermis and dermis have been pulled apart, as if an incision had been made. In a flap type Category I skin tear, the epidermal flap completely covers the dermis to within 1 mm of the wound margin.
 - b. Category II - skin tears with partial tissue loss. With a scant tissue loss type Category II skin tear, 25% or less of the epidermal flap is lost. When more than 25% of the epidermal flap is lost, the Category II skin tear is referred to as a moderate to large tissue loss type skin tear.

- c. Category III - skin tears with complete tissue loss. The epidermal flap is absent in this type of skin tear.
 2. Lacerations - A torn or jagged wound, tear. Caused by blunt trauma (such as a blow, fall, or collision; little or profuse bleeding; Ragged edges do not readily line up.
 3. Abrasions - Caused by friction against rough surface; Superficial; Example Road rash - lines of scraped skin with tiny spots of bleeding
 4. Avulsions - (Degloving) a wound where tissue is torn away from the body; Heavy, rapid bleeding and a noticeable absence of tissue.
 5. Puncture wounds - Caused by a sharp, object deeply penetrating the skin; Small amount bleeding around the outside and more bleeding inside, causing discoloration.
 6. Allergic Contact Dermatitis - Localized to the skin where the substance/product is applied; typically have sharp margins; take on shape of allergen.
 7. Burns
 - a. Superficial – (First Degree) Damage limited to the epidermis, characterized by erythema, hyperemia, tenderness, and pain. A superficial burn is the least severe. It reddens the skin and can be painful but is not a threat to life. Common causes: Sunburn Hot liquids
 - b. Superficial Partial Thickness – (Second Degree) extend through the epidermis downward into the papillary or superficial into the dermal layer; dermal structures are intact such as: nails, hair follicles, nerve endings, sweat glands; characterized by large blisters, edema, pain, and wet weeping, shiny surface can lead to permanent scarring, and may need to be grafted. Associated with extreme pain since the wound is sensitive to air movement and temperatures. Common causes: Hot liquids Flash injury Flame Injury Scalding liquids
 - c. Deep partial thickness – (Deep Second Degree) - Most of skin is destroyed except for small amount of remaining dermis. The wound looks white or charred indicating dead tissue. Blood flow is compromised and a layer of dead dermis or eschar adheres to the wound surface. Pain is much less as the nerves are actually destroyed by the heat. Usually, one cannot distinguish a deep dermal from a full thickness (third degree) by visualization. The presence of sensation to touch usually indicates the burn is a deep partial injury.
 - d. Full Thickness & subdermal burns – (Third & Fourth Degree) extends through the epidermis and dermis and into the subcutaneous tissue. Subdermal burn damages muscle bone, and interstitial tissue. Characterized by deep-red, black, or white appearance; edema, painless nerve ending damage; and exposed subcutaneous fat layer. Grafting is necessary because no skin cells are left to reproduce themselves. Common causes: Prolonged flame (house fire), Steam or scalding liquids, Chemical or electrical injury.
- G. Surgical Wounds
1. Incision line Complications - Drainage from previously intact incision line – possible dehiscence or fistula formation

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2. Wound dehiscence, the partial or complete separation of the outer layers of the joined incision. Dehiscence may be caused by pressure, shear, improper lifting, vascular compromise, infection, or skin weakness caused by corticosteroids or other medications.
 3. Changes in skin color, induration, temp, and unresolved pain may reflect infection.
 4. Healing Ridge - A deposit of collagen palpated as an induration beneath the skin under the suture line, extending about 1 cm on each side of the incision wound, is evident between day 5 and 9. When there is no healing ridge present the chance of infection and or dehiscence is high.
- H. Venous Ulcers
1. Location Venous Ulcers – Medial lower leg, ankle, malleolar area
 2. Wound Characteristics & Associated Findings
 - a. Irregular wound margins
 - b. Superficial wound
 - c. Ruddy granular tissue
 - d. Painless to moderate pain
 - e. Exudate moderate to heavy
 - f. Surrounding skin scaling weepy or dry & thin
 - g. Ankle flare - distension of the small veins on the medial aspect of the foot caused by chronic venous hypertension
 - h. Firm edema
 - i. Hemosiderosis/Hemosiderin staining - Hyper-pigmentation stain of skin from leakage of red blood cells into the tissue, pigmentation changes on the surface of the skin that generally appear as a brown discoloration affecting the medial portion of the leg results from venous hypertension.
 3. Diagnosis of Venous Hypertension and/or Venous Insufficiency
- I. Arterial Ulcers
1. Location - Between toes or tips of toes, over phalangeal heads, around lateral malleolus or areas subjected to trauma/rubbing footwear.
 2. Wound Characteristics
 - a. Even wound margins
 - b. Punched out appearance
 - c. Pale, deep wound bed
 - d. Blanched peri-wound tissue
 - e. Extreme pain
 - f. Cellulitis
 - g. Minimal exudate
 - h. Gangrene/necrosis
 3. Diagnosis of Arterial occlusive disease and ABI score less than or equal to 0.8.
- J. Diabetic Ulcers
1. Location - Planter aspect of foot, under metatarsal heads, under heel and toes.
 2. Characteristics
 - a. Painless
 - b. Even wound margins
 - c. Rounded or oblong shape over bony prominence
 - d. Deep

- e. Surrounding callus
- f. Frequent Cellulitis
- g. Frequent Osteomyelitis
- 3. Diagnosis of Diabetes Mellitus and Peripheral Neuropathy
- K. Lesions -Universal terms used for describing skin conditions
 - 1. Primary Lesions – present at initial onset of problem. Primary lesions are physical changes in the skin considered to be caused directly by the disease process. Types of primary lesions are rarely specific to a single disease entity.
 - a. Vesicle – circular, free fluid filled, Up to 1 cm
 - b. Bulla – circular, free fluid filled, greater than 1 cm
 - c. Macule – a change in the color of the skin, circular, flat discoloration, brown, blue, red or hypo-pigmented, less than 1 cm
 - d. Patch – same as a macule but larger than 1 cm
 - e. Papule – superficial, solid, less than 1 cm, color varies
 - f. Nodule – circular, elevated, solid, greater than 1 cm, may be seen in the epidermis, dermis or subcutaneous tissue
 - g. Pustule – circular, collection of leukocytes, free fluid filled, varies in size
 - h. Wheal – firm, edematous plaque, infiltration of dermis, may last few hours
 - i. Plaque – superficial, elevated, solid, flat topped lesion greater than 1 cm
 - 2. Secondary Lesions – may result from primary lesions, or may be caused by external forces such as: scratching, trauma, infection, and healing process.
 - a. Scale – consists of flakes or plates that represent compacted desquamated layers of stratum corneum. Desquamation occurs when there are peeling sheets of scale following acute injury to the skin.
 - b. Crust – the result of the drying of plasma or exudate on the skin
 - c. Fissure – crack or split in the skin
 - d. Erosion – loss of epidermis, superficial; part or all of the epidermis has been lost
 - e. Ulcer – loss of epidermis and dermis and sometimes underlying subcutaneous tissue
 - f. Lichenification – refers to a thickening of the epidermis seen with exaggeration of normal skin lines. It is usually due to chronic rubbing or scratching of an area.
 - g. Atrophy – loss of substance; thinning
 - h. Scar – thickening; permanent fibrotic changes following damage to the dermis. May have secondary pigment characteristics.
 - i. Excoriation – linear erosion; destruction of the skin by mechanical means
- IX. Pain Assessment
 - A. Pain Quantification
 - 1. Pain intensity – utilize pain intensity scale, be consistent with the scale with each assessment, assess for intensity at present, worst, and least levels.
 - 2. Location of pain – one site, several sites, does it move or radiate to another site, generalized or specific area.
 - 3. Quality; patterns of radiation and character – describe in patients own words: burning, throbbing, stabbing, aching, squeezing, constant, intermittent, spasmodic, tender, and crushing.
 - 4. Onset duration, variations, patterns.

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- Notes:
5. Alleviating/aggravating factors.
 6. Document verbal and nonverbal responses to pain.
- B. Causes
1. Incident pain (Noncyclic) – debridement, major trauma
 2. Episodic pain (Cyclic) – dressing changes, open to air, medication burning, cleansing pain
 3. Continuous pain (Chronic)– underlying cause, infection irritation, disease process
- C. For non-verbal, cognitively impaired patient or non-native English speaking patients it is recommended to use the Wong Baker Faces Pain Rating scale.
- X. Documentation
- A. Risk Assessment Tools – Braden or Norton Plus
1. Recognize and evaluate each resident’s risk factors
 2. Identify which risk factors can be removed or modified
 3. Weekly for the first four weeks after admission then quarterly, or whenever there is a change
- B. Tool to measure wound healing PUSH – Pressure Ulcer Scale for Healing
1. Monitor pressure ulcer healing over time
 2. Monitors
 - a. Size Length X Width
 - b. Exudate amount
 - c. Tissue Type
- C. Checklist Forms
- D. Narrative charting – document if not included in checklist form
- E. Charting and the medical record have one primary purpose – Communication
1. The single most important communication tool in healthcare
 2. The medical record establishes the basis of care decisions
 3. Should be viewed as a paper duplication of the patient
 4. Tells the story of the patients encounter with you and other professional caregivers.
 5. A complete and accurate account of the patient’s condition and the care he/she received.
 6. Is a legal record
 7. Often viewed as unnecessary burdensome paperwork
 8. Often the last task accomplished
 9. Good charting can help prevent the initiation of a lawsuit
- F. AHCP (AHRQ) - Supported Guidelines: Clinical Practice Guideline #15: Treatment of Pressure Ulcers Assessment and documentation should be carried out at least weekly, unless there is evidence of deterioration, in which case both the pressure ulcer and the patient's overall management must be reassessed immediately. More often when indicated by wound complications or changes in wound characteristics.
- G. Wound Documentation
1. Assessment Findings
 - a. Type of wound
 - b. Correct anatomical location
 - c. Measurements
 - d. Tunneling/ undermining

Wound Assessment

- e. Drainage – Amount, Color, Consistency, Odor
 - f. Wound base tissue- slough, eschar, granulation, epithelialization
 - g. Wound edges- Curled (epiboly), callused, macerated, detached
 - h. Periwound - Intact, scaly, induration, edema, redness, warmth, color
 - i. Symptoms of Infection - Fever, increased white count, hypotension, general malaise, redness, swelling, induration, streaking, purulent drainage
 - j. Pain – Intensity, Location, quality/patterns of radiation & character, duration, variations, patterns, alleviating and aggravating factors, current & past pain management plan, effects of pain, pain goal, physical exam of pain
- 2. Interventions
 - a. Turning/repositioning schedule
 - b. Support surfaces
 - c. Heel protection
 - d. Wheelchair cushions
 - e. Adaptive chairs
 - 3. Incontinence management
 - a. Moisture Control
 - b. Skin barriers
 - c. Briefs
 - d. Catheters
 - e. Bowel Bladder Training
 - 4. Treatment
 - a. Current Topical Treatment – Cleansers, Dressings, Ointments
 - b. Response to treatment - Better, no change, decline, Changes modifications
 - 5. Dietary supplements
 - a. Vitamins
 - b. Adaptive Equipment
 - c. Lab tests
 - 6. Response to any procedure should include:
 - a. What procedure was performed
 - b. When it was performed
 - c. Who performed it
 - d. How it was performed
 - e. How well the client tolerated it
 - 7. Adverse Reactions to Care provided should include:
 - a. Record each phone call to or from a physician, including the exact time, message, and response
 - b. Interventions implemented to change treatment and outcomes
 - c. Document any discussion of questionable medical orders, and the directions the doctor gave. Include the time and date of discussion and your actions as a result of the discussion and consequent directions given.
- H. Wound Type Specific Charting
- 1. Venous Ulcers
 - a. Ankle Brachial Index
 - b. Pulses - Dorsalis Pedis Pulse and Posterior Tibial pulse

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- c. Edema
- d. Capillary Refill
- e. Venous Refill
- f. Color upon elevation
- g. Staining
- h. Skin Temperature
- i. History of venous ulcers
- j. Patient education
 - 1) Compression
 - 2) Chronicity
 - 3) Treatment plans
- 2. Arterial Ulcers
 - a. Ankle Brachial Index
 - b. Pulses - Dorsalis Pedis Pulse and Posterior Tibal pulse
 - c. Color upon elevation
 - d. Capillary Refill
 - e. Skin Temperature
 - f. Pain
 - 1) Severity
 - 2) When
 - 3) Interventions
- 3. Diabetic (Neuropathic) Ulcers
 - a. Sensation in foot - Monofilament test
 - b. Toe Brachial Pressure Index
 - c. Pulses - Dorsalis Pedis Pulse and Posterior Tibal pulse
 - d. Calluses
 - e. Foot deformities
 - f. Footwear assessment
 - g. Glucose Control - Hgb A1C
 - h. Patient education
 - 1) Foot care
 - 2) Glucose control
- 4. Pressure Ulcers
 - a. Pressure relieving devices
 - 1) What has been done to remove the cause
 - 2) Effectiveness of device
 - 3) Device check for proper inflation
 - 4) Bottoming out
 - b. Ability to reposition self
 - c. Risk Level for further breakdown
- I. Charting Samples
 - 1. Example 1
 - a. **Bad** - Dressing change to foot ulcer. Appears to be healing well. No c/o voiced. DSD intact
 - b. **Good** - Unstageable pressure ulcer on Right heel. Measures 3 x 3 x 0.2cm. Wound base is 90% intact black-brown eschar, 5% yellow slough, 5% pale pink granulation tissue. Small amount of sanguinous drainage. No undermining or tunneling noted. Wound edges attached, with dry scaly

hyperkeratotic tissue. White macerated tissue noted along lower edge from 6-10. Surrounding tissue scaly and peeling with red orange staining noted along immediate wound perimeter. Light pink intact tissue noted under scaly areas. No odor, redness, edema, or induration noted. No c/o pain upon palpation or rest. Pedal pulse palpated faint 80bpm. ABI score 0.9. No new lab reports at this time. Current treatment is Accuzyme ointment daily. Calves elevated on pillow while in bed, EZ-boot splint applied while up in chair. Low air-loss mattress to bed, repositions self with staff assistance every two hours while in bed and every hour while up in chair. Pro-stat supplement offered BID at med pass for protein needs. Accepts 100% of supplement. Continent of bowels and bladder. Dr. De Cube notified of wound status and macerated wound edges, new orders received to continue current treatment plan and to apply Xenaderm to wound perimeter daily. Patient informed of physicians new order for Xenaderm. Medication actions and side effects explained to patient, with no questions asked. *Dee Best, RN WCC*

Notes:

2. Example #2.
 - a. **Bad** - Patient has good pedal pulses and moves legs and feet well.
 - b. **Good** -Dorsalis pedis and posterior tibial pulses in legs 2+/4+ bilaterally. Leg strength 5/5 bilaterally for all major muscle groups. Sensation intact to light touch; pt. denies pain, numbness, or tingling. Skin warm and dry. No edema.

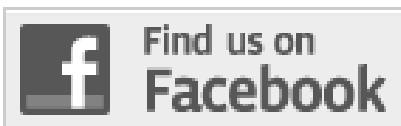
References:

Sardina D, *Skin and Wound Resource Manual*. (2006) Lake Geneva WI: Wound Care Education Institute; www.wcei.net.

Sardina D, *Wound and Skin Care Pocket Guide*, Lake Geneva WI: Wound Care Education Institute (August 2007) ISBN 13: 978-0-9789208-1-4.



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Wound Care
Education Institute

Participant's Evaluation Form

Sponsoring Agency: Wound Care Education Institute

Title of Activity: Wound Assessment

Instructor: Michelle Moore RN, MSN, WCC

Location	City/State	Date
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Please assist us in evaluating this program and planning future programs by completing this evaluation form:

Please use the following rating scale for the questions below and circle the appropriate number.

To a Great Extent (4) To a Moderate Extent (3) To a Slight Extent (2) Not at all (1)

As a result of this Program I feel I have achieved the following objectives:

● Describe the elements of a wound assessment.	4	3	2	1
● Identify pressure ulcers utilizing the 2007 NPUAP staging guidelines	4	3	2	1
● Identify tissue types commonly found in wounds.	4	3	2	1
● Document comprehensive wound assessment.	4	3	2	1

Please use the following rating scale for the questions below and circle the appropriate number:

Excellent (4) Good (3) Fair (2) Poor (1)

1. What is your overall evaluation of this program?	4	3	2	1
2. How well did the program contribute to a better understanding of the topic presented?	4	3	2	1
3. Rate the relationship of the objectives to the overall purpose or goal of the activity.	4	3	2	1
4. Were the audio-visuals helpful?	4	3	2	1
5. How do you rate the physical facilities?	4	3	2	1
6. The hand-out materials were appropriate.	4	3	2	1
7. Teaching Expertise of Presenter	4	3	2	1
8. Appropriateness of Teaching Strategies	4	3	2	1

9. What changes would you make in the course?

10. Would you recommend this program to your colleagues? Why or why not?

11. Please provide suggestions for future courses (content/faculty/level of material).

Name (Optional)

