What is Performing Wound Assessment?

Wound assessment (WA) is performed initially to evaluate a wound, establish a baseline to compare wound healing progress, and to provide data for developing and updating the patient’s treatment plan/plan of care. Typically, clinicians perform WA by relying on a specific facility-approved WA tool. Currently, there is no single widely-accepted optimal WA tool among the many available validated instruments, in part because no comprehensive studies have been done to compare WA tools. Despite the lack of consensus regarding use of a specific tool, most nurse clinicians recognize a set of seven parameters commonly used to assess wounds: Anatomic location, wound Bed, wound Dimensions, wound Shape, Drainage/exudate, wound Edges/margins, and the Periwound area. This author suggests the following pneumonic to remember the seven parameters: “A Barking Dog Sacrifices Daily Easy Peace.” The focus of this Nursing Practice & Skill is to provide a review of the seven parameters commonly used to perform WA. For a review of the knowledge base that a nurse clinician should have prior to assessing wounds, see Nursing Practice & Skill ... Wound Assessment: A Review of Underlying Concepts

• What: WA is the systematic evaluation of a wound based on established criteria. Classification, staging, or grading, depending on the type of wound, occurs at the time the wound is initially assessed. The initial wound classification/stage/grade does not change as wound healing progresses—but serves as a baseline measurement to compare wound healing

• How: WA is a non-invasive procedure during which the clinician follows standard precautions to evaluate and document the status of a wound. If wound debridement is necessary, clinicians commonly employ aseptic non-touch technique (ANTT; i.e., a form of aseptic technique that utilizes measures to prevent the sterile part of the equipment or medication/solution from coming into contact with anything that is not sterile prior to introduction into the patient) (Figure 1)

Figure 1: Aseptic non-touch technique (ANTT) is a form of aseptic technique based on the principal that a key part (i.e., the parts to be protected from contamination such as an open wound, wound edge) cannot be infected if it is not touched—key part must come into contact only with sterile equipment

Principles of Aseptic Non-Touch Technique

- ALWAYS wash hands effectively
- NEVER touch key parts with nonsterile items
- TOUCH nonsterile items with confidence
- TAKE appropriate precautions to prevent infection
Where: WA can be performed in most patient care settings

Who: WA must be performed by a licensed clinician, such as a physician, nurse, or an advanced practice nurse (e.g., wound, ostomy, and continence nurses [WOCN]; clinical nurse specialists). WA cannot be delegated to assistive personnel

What is the Desired Outcome of Performing Wound Assessment?

The desired outcome of performing WA is to assess the wound and collect data for use in developing and updating a treatment plan to guide wound care, prevent complications, and reduce the risk for further tissue injury.

Why is Performing Wound Assessment Important?

Performing WA is important to:

- identify the type of wound (e.g., chronic wounds; burns, chemical, or thermal injuries; mechanical; and malignant wounds)
- classify/stage/grade a wound
- establish a baseline for comparison to subsequent assessments. Note: The classification/staging/grading of a wound does not change as wound healing progresses
- provide data for developing and updating a patient plan of care
- monitor the wound as healing progresses.

Facts and Figures

Extrinsic, intrinsic, and environmental factors can impair wound healing, including the following: older age, smoking, concurrent disease, anemia, incontinence, immobility, chronic pain, impaired nutritional status, low socioeconomic status, psychiatric illness, cognitive impairment, and stress (Milne, 2017)

Researchers who systematically reviewed 43 studies evaluating the effectiveness of wound measurement techniques reported that digital planimetry and digital imaging were the most accurate and reliable methods, particularly for larger and irregularly shaped wounds. Three-dimensional techniques were not found to be accurate, affordable, or user-friendly (Jorgensen et al., 2016)

What You Need to Know Before Performing Wound Assessment

Prior to performing WA, the nurse clinician should:

- Identify the different types of wounds and understand that separate classification/staging/grading instruments exist for evaluating each wound type (for more information about the different types of wound, see Nursing Practice & Skill … Wound Assessment: A Review of Underlying Concepts, referenced above)
  - Separate classification/staging/grading instruments exist for evaluating each wound types (for more complete information about each wound type, see the series of Nursing Practice & Skill topics about each wound, and for information about the different evaluation tools listed below, see Nursing Practice & Skill … Wound Assessment: A Review of Underlying Concepts, referenced above)

<table>
<thead>
<tr>
<th>Type of Wound</th>
<th>WA Assessment Tools</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chronic wound (including pressure ulcers [PrUs], lower-extremity arterial disease/ulcers (LEAD), lower-extremity venous disease/ulcers (LEVD), lower-extremity neuropathic disease (LEND))</td>
<td>The Pressure Ulcer Scale for Healing (PUSH); Bates-Jensen Wound Assessment tool (BWAT); NPUAP Pressure Ulcer Stages/Categories</td>
</tr>
<tr>
<td>Mechanical (acute wounds) (including surgical incisions, gunshot/trauma wounds, abrasions/skin tears)</td>
<td>Distinguished by tissue involvement (e.g., superficial, partial thickness, full thickness)</td>
</tr>
</tbody>
</table>
Diabetic foot ulcers (often evaluated as a chronic wound)

<table>
<thead>
<tr>
<th>Wagner-Meggitt Classification of Diabetic Foot; University of Texas San Antonio Diabetic Wound Classification System</th>
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</thead>
<tbody>
<tr>
<td>Burns, chemical, radiation, and thermal injuries</td>
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<tr>
<td>Malignancies</td>
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- understand that the frequency of WA depends on multiple factors (for more information about the factors used to determine the optimal frequency of performing WA, see Nursing Practice & Skill ... Wound Assessment: A Review of Underlying Concepts, referenced above)
- recognize the importance of evaluating wound etiology. This can be accomplished by obtaining a detailed clinical history from the patient to identify underlying pathology or co-morbidities (for more information regarding the importance of evaluating local and systemic factors that can impede wound healing, see Nursing Practice & Skill ... Wound Assessment: A Review of Underlying Concepts, referenced above)
- be able to identify causative factors that resulted in injury and wound development or that serve to impede wound healing (for examples of causative factors, see Nursing Practice & Skill ... Wound Assessment: A Review of Underlying Concepts, referenced above)
- recognize the importance of performing regularly scheduled assessments to monitor the patient’s risk for further tissue injury (“Risk Assessment”). Typically, initial risk assessment is completed after completing a skin assessment and a review of the patient’s medical history, wound etiology and/or causative factors. The frequency of updating the risk assessment will depend on facility protocol to identify new risk factors or eliminate or modify existing risk factors. Commonly used tools for performing risk assessment include the Braden Scale for Predicting Pressure Ulcer Risk (Braden Scale) and Norton Scale for Assessing Risk of Pressure Ulcers (Norton Scale). Although the Braden and Norton scales were designed to assess PrUs, they rely on common factors that can be used to assess risk for developing wounds (e.g., the patient’s physical condition, mental condition, activity level, mobility level, and incontinence status)
- have knowledge of pain assessment and management, especially if debridement is necessary. Prior to performing wound assessment, use a facility approved pain scale (Figure 2) to assess the patient for pain. In addition, the clinician should understand the concept of anticipatory pain, which is related to the patient’s anxiety regarding the WA procedure. Pain documentation should include assessments completed before, during, and after WA

![Pain Scale](figure2.png)

Figure 2: A visual analogue scale is a numerical scale used by patients to rate the level of their pain on a scale of 1 (no pain) to 10 (worst imaginable pain). Copyright© 2014, EBSCO Information Services

- recognize that different types of aseptic technique are used depending on the wound and the patient’s condition
the importance of wound bed preparation, which should be performed initially and as necessary throughout the wound healing process.

- Wound cleansing and irrigation is performed to remove loose cellular debris, bacteria, devitalized tissue, loosened scabbed material, foreign bodies, and exudate from the wound site to reduce the risk for infection (For more information, see Nursing Practice & Skill ... Wound Cleaning and Irrigation: Performing)

- Failure to remove excessive exudate from the wound bed can lead to maceration (i.e., softening and breakdown) and excoriation (i.e., abrasion) of the surrounding skin, give the skin a spongy texture, and weaken its resistance to bacteria and ability to protect underlying tissues (Beldon, 2016)

- Wound debridement is performed when the wound bed cannot be visualized or if necessary to promote healing (for more information about the different types of debridement, see the related series of Nursing Practice & Skill topics)

- appreciation of the importance of wound bed preparation, which should be performed initially and as necessary throughout the wound healing process.

- Understanding of the set of parameters commonly used to assess wounds: Anatomic location, wound Bed, wound Dimensions, wound Shape, Drainage/exudate, wound Edges/margins, and the Periwound area. The following pneumonic can be used to remember the seven parameters: “A Barking Dog Sacrifices Daily Easy Peace.” Note: Although WA methods and standards vary among health care facilities, it is critical that once a tool has been selected, all subsequent WAs are performed using the same tool to maintain consistency.

- Anatomic location. Identify the precise location of the wound using anatomical terms (e.g., 4 cm above left medial malleolus). PrUs are typically identified by the nearest bony prominence. For example, a PrU on the front of the left hip would be properly referred to as located on the “anterior left ischial tuberosity;” an ulcer on the right heel could be identified as located on “right lateral calcaneus”). Use the following directional terms:
  - Anterior (i.e., front)
  - Posterior (i.e., back)
  - Superior (i.e., up/top)
  - Inferior (i.e., down/bottom)
  - Medial (i.e., toward the middle)
  - Lateral (i.e., away from the middle)

- Wound Bed. Note the types of tissue at the wound base by indicating the percentage of viable/nonviable tissue—the total percentage must equal 100% (e.g., wound bed covered with 30% granulation tissue, 40% slough, 30% eschar). Follow-up assessments should include an estimation of the change of granulation tissue as a percentage of the wound base. Also observe for lack of moisture at the wound base—a moist wound bed is preferred because it promotes migration of epithelial tissue
  - Viable (i.e., living) tissue presents as
    - granulation tissue: beefy red, puffy, and mounding
    - non-granulation tissue: pale red/pink
  - Epithelial tissue (i.e., outermost layer of skin, usually deep pink to pearly pink [depending on patient’s race]; tissue used to close the wound)
  - Nonviable (i.e., dead necrotic) tissue is evidenced by slough, eschar, or a green/white color indicating infection.

- Dimensions/size of the wound. All wounds require a two-dimensional measurement of the wound opening (e.g., length and width). Measuring depth is necessary for any wound cavity, tunneling (also called sinus tracts; i.e., channels extending from the central wound bed into surrounding subcutaneous tissue or muscle), and undermined area (i.e., tissue destruction that occurs under intact skin around the wound perimeter). The measurements should be recorded in centimeters instead of inches—most reports require measurement in cm for reimbursement. Use a disposable paper ruler to prevent cross-infection and reduce risk for contamination of the wound bed
  - Length and width = Wound Area. The National Pressure Ulcer Advisory Panel (NPUAP) recommends using the “Head-to-Toe” method of measurement, which uses the image of a clock for visualization. The 12 o’clock to 6 o’clock plane (head-to-toe, coronal plane of the body) is used to measure the length, multiplied by the widest width at the 3 o’clock to 9 o’clock plane (side-to-side, transverse plane). Multiplying the length and width together provides a square cm total value (the wound size, known as the Baseline Wound Area (BWA)). However, for wounds that do not lie along the coronal/transverse body planes, a more accurate method is the “Longest Aspect” approach, which involves multiplying the greatest wound length by the greatest wound width perpendicular to the length. Once an approach is
selected, all subsequent assessments should be performed utilizing the same method. Note: The BWA and subsequent measurements (Current Wound Area [CWA]) can be used to calculate wound healing in terms of percentage using the following formula: \((BWA - CWA/BWA) \times 100\)

- The Bates-Jensen Wound Assessment Tool (BWAT) rates wound size from smallest (1) to largest (5) using the following parameters:
  - 1: Length x width < 4 sq cm
  - 2: Length x width 4 – < 16 sq cm
  - 3: Length x width 16.1 – < 36 sq cm
  - 4: Length x width 36.1 – < 80 sq cm
  - 5: Length x width > 80 sq cm

- **Depth** of the wound bed, including any tunneling or undermining, is measured for any wound with a cavity. It is not necessary to determine the wound volume as most WA tools do not require volume measurement (Chang, et al., 2011)
- The BWAT instrument classifies undermining as follows:
  - 1: Indistinct, diffuse, not clearly visible
  - 2: Distinct, outline clearly visible, attached even with wound base
  - 3: Well-defined, not attached to wound base
  - 4: Well-defined, not attached to base, rolled under, thickened
  - 5: Well-defined, fibrotic, scarred or hyperkeratotic (i.e., thickening of the outermost layer of the epidermis, associated with increase in granulation tissue)

- **Shape** of the wound, which can be documented by photographing the wound or tracing the outline with a wound measuring tool (e.g., clear acetate sheet with a grid matrix), tracing paper, or by drawing the image. Photography is critical to capture the visual aspects of the wound. The photographed image should include a measurement device to convey the wound dimensions

- **Drainage/exudate.** Evaluate for types of drainage and for volume, odor, and consistency. For more information regarding assessing drainage, see Nursing Practice & Skill ... Wound Therapy, Performing: Drainage
- **Types** of drainage include
  - *serous*, a thin, clear fluid typically seen in partial-thickness wounds and with venous ulceration. Serous exudate during the acute inflammatory stage is expected; however, moderate to heavy drainage can indicate presence of a large number of microorganisms (a high bioburden) or subclinical infection
  - *sanguineous* refers to the presence of blood. Bloody drainage is commonly observed in partial-thickness or full-thicknesswounds
  - *serosanguineous* refers to the presence of both blood and serum. Serosanguinous wounds are moist with watery, pale red to pink plasma (due to the presence of red blood cells); this drainage is typically seen in the acute inflammatory or the proliferative phase of wound healing
  - *seropurulent* drainage has a consistency similar to serous drainage, slightly more viscous than water. It is cloudy and can be tan or pale yellow and is often indicative of infection
  - *purulent* describes thick, opaque drainage that can be tan, yellow, green, or brown in color. **Purulent drainage is abnormal and is associated with a high bioburden and/or infection**

- **Volume** is the general term used to quantify the amount of drainage and can be categorized as
  - *none* (i.e., wound tissues are dry)
  - *scant* (i.e., wound tissues are moist without measurable drainage)
  - *small/minimal* (i.e., wound tissues are very moist or wet; drainage covers < 25% of the dressing)
  - *moderate* (i.e., wound tissues are wet; drainage covers 25–75% of the dressing)
  - *large/copious* (i.e., wound tissues are filled with fluid and drainage is present on > 75% of dressing)

- **Odor** present after wound cleaning can be indicative of bacterial infection. Gram-negative and anaerobic bacteria can create a foul smell due to tissue breakdown. Some bacteria have a distinctive smell (e.g., ammonia-like odor of Proteus or the cloyingly sweet smell of Pseudomonas). The following terms are commonly used to describe wound drainage odor: no odor noted, strong, foul, fecal, musty, sweet, or ammonia-like
- **Consistency** is used to describe the viscosity of the drainage. Low viscosity drainage is thin, runny or watery. High viscosity drainage is thick and/or sticky

- **Wound edges/margins:** Observe to confirm edges are distinct and attached to the underlying tissue—suspect undermining if wound edges have separated from the wound tissue, or if edges are higher than the periwound area (i.e., skin surrounding the wound). If the edges are rolled or curled under the wound margin, the epithelial cells will not be able
to migrate over the wound bed and the wound will not close. Also observe for induration (i.e., formation of callous-like, sclerotic, hardened, fibrous tissue)

- **Periwound**: The area immediately surrounding the wound is assessed for color, texture, temperature, and integrity
  - **Color** is described as
    - pink or normal for ethnic group
    - erythemic (i.e., bright red) denoting infection/inflammation or blanches to touch
    - white (indicates maceration), grey, or hypopigmented
    - dark red, purple (indicates trauma, high bacterial levels), or nonblanchable (denotes poor blood flow)
    - black or hyperpigmented
  - **Texture** refers to presence of moisture, maceration, bogginess (i.e., soft and mushy), and denuded tissue (i.e., erosion of epidermal layer). For wounds healing by primary intention (e.g., surgical incisions, wounds with well-approximated edges), a “healing ridge” should be easily palpated five to nine days following wound injury. The ridge should present as firmness beneath the skin, extending 1 cm on both sides of the incision/wound edge
  - **Temperature**. Use the back of a gloved hand to monitor for excessive warmth/heat, which can indicate infection, or coolness that denotes compromised blood flow
  - **Integrity**. Examine the periwound area for skin intactness, edema, or hardness

Preliminary steps that should be taken before performing WA include the following:

- Review the facility/unit specific protocol for performing WA to determine the
  - approved WA tool to be used
  - frequency with which WA should be performed
  - solutions to be used for cleaning/irrigating the wound or for wound debridement
- Review the treating clinician’s orders regarding WA, specimens to be obtained for laboratory testing, specialized dressings to be used, and equipment to be ordered. Review the patient’s medical record for
  - any allergies (e.g., to latex, medications, and any other substance); use alternative materials as appropriate
  - information regarding previous WAs, including
    - previous risk assessment
    - wound etiology
    - wound causation
    - type of wound
    - wound dimensions and shape
    - percentages of types of tissue at wound bed (e.g., granulation, epithelial, necrotic)
    - drainage/exudate, including type, volume, odor, and consistency
    - condition of wound edges
    - condition of periwound area
  - previous laboratory tests (for a listing of commonly ordered laboratory tests relevant to WA, see Other Tests, Treatments, or Procedures that can be Necessary Before or After Assessing the Underlying Factors of Wound Assessment, below)
- Verify completion of facility informed consent. Typically, the general consent for treatment executed by a patient when admitted to a health-care facility includes standard provisions that encompass WA

Gather supplies and equipment necessary to perform WA, which typically includes the following items:

- **Personal protective equipment (PPE)**; multiple pairs of nonsterile gloves, unless the facility protocol requires sterile gloves). Use additional PPE (e.g., gown, mask, eye protection) depending on the patient’s infectious/immune status or if exposure to body fluids is anticipated
- Facility-approved pain assessment tool
- Prescribed analgesia and the supplies necessary to administer medication
- Supplies for cleansing and irrigating the wound, if appropriate (See Nursing Practice & Skill ... Wound Cleaning and Irrigation: Performing, referenced above)
- Supplies for debridement (for more information, see the Nursing Practice & Skill topics regarding the different types of debridement)
- Supplies for dressing change (for more information, see the Nursing Practice & Skill topics regarding the many types of dressings that are used in wound care)
- Camera
- Disposable measuring guide such as a ruler marked with cm increments
- Sterile cotton-tipped swabs
- Sterile normal saline for moistening the cotton-tipped swabs
- Tracing paper (e.g., transparent acetate sheets with a grid)
- Natural light source or halogen light—fluorescent lighting can cast a bluish color over darkly pigmented skin
- Supplies for specimen collection, if applicable (specimen collection tube, biohazard bag, laboratory requisition form)
- Written information to reinforce verbal instruction

**How to Perform Wound Assessment**

› Perform hand hygiene; don gloves and other PPE, as necessary
› Identify the patient using at least 2 unique identifiers
› Establish privacy by closing the door to the patient’s room and/or drawing the curtain surrounding the patient’s bed
› Introduce yourself to the patient and family member(s), if present, and explain your clinical role
• Assess the patient/family for knowledge deficits and anxiety regarding wound assessment
• Determine if the patient/family requires special considerations regarding communication (e.g., due to illiteracy, language barriers, or deafness); make arrangements to meet these needs if they are present
  – Use a professional certified medical interpreter, either in person or via phone, when a communication barrier exists
• Explain the procedure, its purpose, and the expectations for patient participation (e.g., importance of remaining as still as possible during WA and communicating any pain or discomfort); answer any questions and provide emotional support as needed
› Adhere to Standard Precautions and facility infection control standards, and employ appropriate aseptic technique when performing wound care
› If indicated, complete or update a risk assessment scale (e.g., Braden/Braden Q, Norton Scale for Assessing Risk of Pressure Ulcers). Common factors to consider include wound etiology and/or causation, and the patient’s physical condition, mental condition, activity level, mobility level, and incontinence status
› Assess the patient’s pain level using a facility-approved pain assessment tool
• If appropriate, administer prescribed analgesia and allow time for it to reach therapeutic level
› Assist the patient into a position (e.g., supine, side-lying, prone) that provides access to the wound site. Use this same position for subsequent WA procedures
› If completing the initial wound assessment, perform a complete skin assessment, evaluating for areas of injury, abnormal growths, inflammation, and injury (for more information see *Nursing Practice & Skill ... Skin Assessment: Performing*). Note the following as part of the skin assessment (Ayello et al., 2012)
• Presence of color changes in lightly pigmented patients and discoloration in darkly pigmented patients
• Condition of the skin at bony prominences ([Figure 3]; [Figure 4]) and beneath any
  – equipment or device (e.g., catheters; tubing, particularly oxygen masks and cannulas)
  – airway (e.g., oral and nasal tubing)
  – ventilator tubing
  – collars/braces
  – compression stockings or pneumatic compression boots
• Presence of increased edema, hardness, or temperature changes (increased coolness or warmth)
Figure 3: Use pillows or specially-designed devices (e.g., heel and elbow protective devices) to reduce pressure against skin located over boney prominences; do not use donut-shaped devices. Copyright ©2015, EBSCO Information Services

Figure 4: Use pressure-reducing devices where necessary to avoid injury, and use a 30° tilted side-lying position if possible to reduce injury to the trochanter area. Copyright ©2015, EBSCO Information Services

- Remove dressing and examine for the type, volume, odor, and consistency of drainage/exudate
- Discard gloves and other soiled materials into the appropriate receptacles—dressings soiled with blood/bodily fluids should be discarded into a biohazard bag
- Perform hand hygiene and don clean gloves
- Perform wound cleansing/irrigation or debridement if the wound bed cannot be visualized or if the wound bed is covered by loose cellular debris, bacteria, devitalized tissue, loosened scabbed material, foreign bodies, or exudate. If debridement is required, contact the treating clinician for orders regarding the preferred method of debridement (for more information regarding performing cleansing and irrigation or debridement, see the Nursing Practice & Skill topics regarding wound cleansing and irrigation and debridement, referenced above)
- Discard gloves and other soiled materials into the appropriate receptacles
- Perform hand hygiene and don clean gloves
- Photograph the wound if recommended by facility-approved protocol. Include a disposable measuring tool (e.g., ruler, tracing grid) in the photograph to establish the scale of the injury. Verify the photograph does not contain any visual elements that could readily identify the patient
- Using facility-approved WA tool, perform WA
  - If the wound is healing by primary intention, note the
    - wound’s anatomic location
    - wound’s dimensions, length, and width
wound’s edges. Note if edges are well-approximated or if gaps are present. Note if sutures, staples, or steri-strips are used to hold the edges together

periwound area for color, texture, temperature, and integrity

If the wound is healing by secondary intention (e.g., Stage II-IVPrU, contaminated surgical or traumatic wound, lesion), include the seven wound parameters to assess wounds (anatomical location, wound bed, wound dimensions, drainage [assessed above], wound edges, and periwound area). Use the mnemonic “A Barking D og S acrifices D aily E asy P eace” to remember the 7 elements of WA. Using the descriptors noted for wounds healing by primary intention, above, and the following additional elements, note the

Anatomic location

Wound Bed

- Observe for the types of tissue at the wound bed. Estimate the percentage of each type of tissue—the total of each type of tissue should equal 100%
- Note the percentage change in size by comparing the BWA against the CWA
- Observe for moistness/desiccation at wound bed

Dimensions/size (e.g., length, width, and depth) measured in cm, including any areas of tunneling and undermining

Length and width

- If using the “Head-to-Toe” method, use a disposable ruler along the 12 o’clock to 6 o’clock plane (head-to-toe) to measure the length. Measure the greatest width along the 3 o’clock to 9 o’clock plane (side-to-side). Multiply the two measurements together to calculate the square cm value of the BWA
- If using the “Longest Aspect” approach, measure the longest wound length by the longest wound width. Multiply the two measurements together to calculate the square cm value of the BWA
- Follow-up assessments should include comparable measurements so that the CWA calculation and BWA (using the formula listed below) can be used to calculate wound healing in terms of percentage: (BWA - CWA/BWA) x 100

Depth of the wound bed and tunneling and undermining

- Measure the wound bed by placing a sterile cotton-tipped swab, lightly moistened with normal saline, perpendicular into the wound bed. Slide gloved fingers down the applicator to the wound margin (i.e., epidermal level of the wound). Note variances in depth along the wound bed, not just the deepest measurement
- Measure wound tunneling and undermining using a moistered cotton-tipped swab placed into the deepest part of the tunnel and undermined area. Slide fingers along the swab stick to the opening of the tract or undermining. Remove the swab and measure the distance from the applicator tip to the fingers
- When recording the depth of tunneling or undermining, note the length and direction of the channel by visualizing a clock with the patient’s head at 12 o’clock. For example, a wound tunnel could be documented as “3 cm deep tunnel at 4 o’clock” and undermining could be documented as “2 cm deep undermining at left wound margin from 10 o’clock to 1 o’clock”
- If applicable, note the BWAT 1–5 classification for undermining

Shape. Trace the outline with a wound measuring tool, tracing paper, or by drawing the wound shape

Wound Edges/margins. Determine if the edges are distinct and communicate with underlying tissue. Check for rolled or curled edges, and for induration

Periwound area. Note color, texture, temperature, and integrity

- Observes for signs of infection. Obtain specimen for culture and analysis, if ordered
- Discard gloves and other soiled materials into the appropriate receptacles; perform hand hygiene
- Reposition the patient for comfort and reassess for pain
- Update the patient’s plan of care, as appropriate, make the appropriate notation in the medication administration record (MAR) for any medication given, and document performing WA in the patient’s medical record, including the following information:
  - Date and time the WA was performed, including
    –the anatomical position of the patient during the WA/skin assessment
    –If performing the initial WA, include the etiology of the wound and any causative factors
  - Date, time, and findings of complete skin assessment, if performed
  - Date, time, and findings of wound risk assessment
  –Indicate if interventions were implemented to reduce risk of developing and/or worsening tissue injury
- Note if a photograph was taken of the wound. Place the photograph, labeled with the patient’s name and medical record number, in the patient’s chart
- Description of any cleansing/irrigation or debridement. Note any solutions used to cleanse/irrigation or debride the wound
• If the wound is healing by primary intention, record assessment observations regarding the following:
  – Anatomic location
  – Dimensions/size
  – Presence of drainage/exudate
  – Condition of wound edges/margins
  – Condition of periwound area
  – Any signs of infection
    - Note if a specimen for a wound culture was obtained and forwarded to the laboratory for analysis

• If the wound is healing by secondary intention, record assessment observations for the following:
  – Anatomic location
  – Wound bed. Note percentage of types of tissue
  – Dimensions/size measured in cm, length, width, and depth, including any areas of tunneling and undermining
  – Shape. Place a tracing of the wound in the patient’s medical record
  – Drainage/exudate
  – Wound edges/margins
  – Periwound area
  – Signs of infection
    - Note if a specimen for a wound culture was obtained and forwarded to the laboratory for analysis

• Patient’s tolerance of the procedure. Indicate initial pain level, and if analgesia was administered, together with the patient’s response during and after the procedure

• Any unexpected patient events or outcomes, interventions performed, response to interventions, and whether the treating clinician was notified

• Patient/family education, including topics presented, response to education provided/discussed, plan for follow-up education, and details regarding any barriers to communication and/or techniques that promoted successful communication

Other Tests, Treatments, or Procedures That Can be Necessary before or after Performing Wound Assessment
› The nurse clinician is responsible for completing orders from the treating clinician for laboratory tests, treatment modalities, wound care products, analgesia, and any medication related to wound care treatment. Commonly ordered items can include the following:
  • Wound care supplies (e.g., special dressings, such as foams, alginates, collagens, composites, hydrocolloids, hydrogels, negative pressure [for more information see the Nursing Practice & Skill topics regarding specialized dressings]; securement devices; wound cleansers and irrigants; debridement supplies; measurement supplies [e.g., cotton swabs, disposable ruler marked with cm increments, transparent tracing guide with grid; negative pressure wound therapy pump])
  • Support surfaces (e.g., special beds or mattress overlays, heel and elbow protectors, support cushions for chairs)
  • Laboratory tests (e.g., wound and blood culture and specificity, blood chemistry, CBC with differential [↑ WBC count; and ↓ RBC count], prealbumin, transferrin levels, metabolic panel including fasting or random blood glucose levels, glycohemoglobin [A1c])
  • Non-invasive tests such as segmental blood pressure measurements, Doppler waveform analysis for checking pedal pulses, vascular testing
  • Medications (e.g., topical antibiotics and/or steroids, debriding agents, growth factors)
  • Referrals for
    – consultation with a registered dietitian when nutritional deficiencies are suspected
    – consultation with a wound care specialist can be necessary, especially in cases where wound healing is not evident within two weeks
    – diabetes education, if appropriate
    – rehabilitation support following wound healing

What to Expect After Performing Wound Assessment
› Wound healing will progress without complications or further injury, and the patient’s pain will be well-managed

Red Flags
› Notify the treating clinician if any of the following conditions develop:
• Signs of infection such as ↑ temperature, ↑ redness, ↑ volume of exudate/drainage, deteriorating quality of drainage (e.g., worsening odor; ↑ purulent drainage; drainage becomes more cloudy or thicker in consistency), or ↑ pain
• ↑ bleeding absent debridement
• Signs of wound healing interruption or failure to heal
• ↑ erosion to periwound area or wound bed, or perforation of periwound area
• Unrelieved pain at or near the wound site
• Fever

What Do I Need to Tell the Patient/Patient’s Family?

› Educate the patient and caregiver regarding
  • use of specialized dressings or other treatment modalities
  • laboratory testing or other diagnostic procedures; explain how these tests and/or procedures are performed, and when the results will likely become available

› If the patient will be discharged home before wound healing is complete, instruct the patient or caregiver to
  • contact the treating clinician immediately in the event of any of the changes listed in Red Flags, above
  – Suggest the characteristic signs of inflammation can be remembered by the acronym W.E.E.P. (warmth, edema, erythema, pain) or H.O.P.E. (heat, oedema [using the British English spelling], pain, erythema)
  • avoid getting the dressing wet or soiled; offer suggestions about how to protect the wound from moisture (e.g., use of waterproof bags, taking baths instead of showers). Communicate the treating clinician’s recommendation regarding bathing/showering
  • wear clothing that does not rub against the wound (if the wound is to be left uncovered) or the wound dressing

References