Wound Assessment and Documentation: A Practical Guide

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Objectives

• Identify five types of wounds other than pressure ulcers.
• Describe the parameters that are essential in providing a thorough wound assessment.
• List the three dimensions that should be measured on all wounds in proper order.
• Identify and describe the tissue types that may be visualized in a wound assessment.
Objectives (con’t)

• Differentiate between the terms undermining and tunneling.
• Provide five characteristics that might be visualized when assessing an abnormal periwound.
• Identify and describe two types of necrotic tissue visualized in a wound bed.
Anatomy and Physiology Review
Functions of the Skin

• Protection
• Temperature regulation
• Fluid and electrolyte balance
• Metabolism
• Sensation
• Synthesis
• Communication
The Epidermis

- Outermost layer of the skin
- Slightly acidic with a pH of 5.5
- Regenerates
- Contains melanocytes (pigment)
Epidermis Functions

- Protection
- Regeneration
- Pigmentation
- Allergen recognition
- Vitamin D synthesis
- Maintenance of dermal contact
The Dermis

• Provides strength and support
• Supplies blood and oxygen
• Resists shearing forces
• Retains moisture
• Inflammatory response
Functions of the Subcutaneous Layer

• Also referred to as the hypodermis
• Attaches to underlying structures
• Provides thermal insulation
• Storage of calories (energy)
• Controls body shape
• Mechanical “shock absorber”
Wouldn’t It Be Nice....
Factors Altering Normal Skin

- Age
- Sun exposure
- Hydration
- Soaps
- Nutrition
- Smoking
- Medications
Factors Contributing to Altered Skin Integrity

• Mechanical forces
• Moisture/chemicals
• Vascular damage
• Infectious Agents
• Allergic Reactions
• Trauma
• Burns
• Radiation
CAUTION

Graphic Wound Photos Ahead
Mechanical: Pressure Ulcers
Mechanical: Skin Tear

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Moisture: Incontinence Associated Dermatitis (IAD)

- An inflammation of the skin that occurs when urine or stool comes into contact with perineal or perigenital skin

(WOCN)
Moisture: IAD
Vascular-Venous
Arterial
Neuropathic
Sickle Cell
Trauma: Surgical

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WoundRounds
Traumatic Injuries
Burns: Thermal Injuries

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Burns: Electrical
Chemical Burns

• Often smaller in size than thermal burns
• More likely full thickness skin loss

• Common causes of chemical burns are:
  • Alkalis
  • Acids
  • Organic Compounds
Other Types of Wounds

- Cancerous lesions
- Infectious Agents
- Inflammatory
- Medication-induced
- Metabolic
- Rash
Infectious Agents

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Photo courtesy of Bill Brandon, CWOCN
Cancerous Lesions

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Expectations

• Prior to wound assessment, the wound should be cleansed first
• Remove any loose debris, wound drainage and dressing residue

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Comprehensive Wound Assessment Includes:

- Anatomic Location
- Etiology
- Dimensions of Wound
- Tissue Type
- Extent of Tissue Loss
- Exudate
- Wound Edges
- Periwound Skin
- Signs and Symptoms of Infection
- Wound Pain
Anatomic Location

• For pressure ulcers, what is the bony prominence?
• For other dermal wounds, be descriptive and accurate
Sample Descriptors

• Right vs. Left
• Coccyx vs. Sacrum
• Trochanter vs. Ischial Tuberosity

• Medial vs. Lateral
• Anterior vs. Posterior
• Plantar vs. Dorsal
Etiology

• What is likely the cause of the wound?
• What can I do to eliminate the cause?
• What are interventions are appropriate?
Wound Measurement

3 dimensions are essential:

- Length
- Width
- Depth

Unit of measure:

- Always centimeters
Measuring Length and Width

**Length:**

- Place the wound measuring guide at greatest length (head-to-toe)

**Width:**

- Place the wound measuring guide at greatest width (or side to side)
Wound Depth

• Gently insert a cotton-tipped applicator into the deepest part of the wound
• Place a mark on the applicator at the level of the skin (may be the clinician’s thumb and index finger or an actual ink mark on the applicator)
• Hold the applicator against a centimeter measuring device to determine the depth of the wound
Extent of Tissue Loss

- **Pressure Ulcers**: NPUAP Staging System; revised 2007 to include SDTI and Unstageable Pressure Ulcers
- **Burns**: First, second, third, fourth degree
- **Other Dermal Wounds**: Partial Thickness or Full Thickness Skin Loss
- **Diabetic Foot Ulcers (advanced assessment)**: several such as the Wagner, University of Texas, SAD (Size, Area, Depth)
Partial-Thickness Skin Loss

Photo courtesy of Lynn Ferguson, CWOCN
Tissue Types

Viable Tissue:

• Granulation
• Clean, non-granulating
• Epithelial

May also visualize:

• Muscle
• Tendon
• Subcutaneous

Nonviable (Necrotic):

• Eschar
• Slough
Granulation Tissue

- Beefy red, moist, and “berry-like” in appearance
- Typically appears pink or red

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Clean, Non-Granulating

- Wound bed appears smooth and red
- Lacks granular or “berry-like” appearance
- Absence of granulation tissue
Epithelial Tissue

- Regenerated epidermis across the surface of the wound
- Appears pink and dry
Nonviable (Necrotic) Tissue

• Color, texture, moisture, and adherence of tissue to the wound bed should be noted.
Eschar

• One form of devitalized (necrotic) tissue
• May be:
  • black, brown, brownish-black
  • Loose or adherent
  • Moist or dry
  • Hard or soft
Some Examples
Eschar
**Slough**

- A second form of devitalized (necrotic) tissue

- **May be:**
  - Yellow, tan, grey, white in color
  - Firmly adherent
  - Loose and stringy
Some Examples
A Scab Is Not Necrotic Tissue

- Crusted area of dried, hardened blood and serum over the surface of the wound
Exudate

- **Amount:**
  - None
  - Light
  - Moderate
  - Heavy

- **Type:**
  - Serous
  - Serosanguineous
  - Sanguinious
  - Purulent
Wound Edges

Tell A Story:
- Epithelialization?
- Chronicity?
- Etiology?

Characteristics:
- Attached
- Unattached
- Fibrotic or scarred (closed)
- Rolled edges (epible)
Undermining

- **Definition:** tissue destruction that occurs underneath intact skin around the perimeter of the wound
- Commonly seen in those exposed to shearing
- Involves a significant portion of the wound edge

(WOCN)
Measuring Undermining

- Gently insert the cotton-tipped applicator into the areas of undermining
- Place a mark on the applicator at the level of the skin (may be the clinician’s thumb and index finger or an actual ink mark on the applicator)
- Hold the applicator against a centimeter measuring device to determine the depth of the undermining
- Use the face of a clock to indicate where the undermined areas are located (12 o’clock is the head of the person; 6 o’clock is the feet, etc...)

WoundRounds
Some Examples

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Tunneling

• **Definition:** often used interchangeably with the term sinus tract; tissue destruction occurring in any direction from the surface or edge of the wound resulting in dead space with the potential for abscess formation *(WOCN)*
Measuring Tunneling

• Gently insert the cotton-tipped applicator into the tunnel
• Place a mark on the applicator at the level of the skin (may be the clinician’s thumb and index finger or an actual ink mark on the applicator)
• Hold the applicator against a centimeter measuring device to determine the depth of the tunnel
• Use the face of a clock to indicate where the tunneling is located (12 o’clock is the head of the person; 6 o’clock is the feet, etc...)
Example
Periwound Skin

- Erythema
- Edema
- Maceration
- Denuded
- Bogginess

- Induration
- Dermatitis
- Epidermal Stripping
- Yeast
- Callus
Commonly Seen
Maceration

- Softening of tissue by soaking in fluids
- Presents as white, spongy tissue in affected areas; in darkly pigmented individuals, may present as gray, spongy tissue

**Potential causes of maceration include:**
- Wound exudate
- Urine, liquid stool
- Perspiration
Maceration

Photo courtesy of Lynn Ferguson, CWOCN

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Candida (yeast)

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Denuded periwound

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Clinical Signs and Symptoms of Infection*

- Erythema
- Edema
- Warmth
- Odor
- Purulent exudate

*Note: Clinical signs of infection may not be present in the immunocompromised patient or the patient with poor perfusion.
Clinical Signs and Symptoms of Infection*

• Tenderness
• Pain
• Fever
• Elevated WBC count (> $10^5$ gram of tissue)

*Note: Clinical signs of infection may not be present in the immunocompromised patient or the patient with poor perfusion
Infection

- Present?
- Absent?
- Unable to determine?
Pain

• Considered the fifth vital sign

• More specifically wound pain:
  • Can indicate infection or deterioration in the wound
  • May also be indicative of inappropriate or inadequate treatment choices
Pain (Con’t)

• Should be measured regularly and frequently
• Utilize a validated pain assessment tool
Documenting Wound Healing

Some options include:

- PUSH Tool (pressure)
- BWAT (pressure & non-pressure)
- OASIS (home health)
- Photography in conjunction with a comprehensive assessment tool
Documenting Your Assessment

- On admission
- Per protocol (typically at least every 7 days)
- With any change in condition
- Post-debridement
- Prior to discharge
More Documentation

• Interventions?
• Response to interventions?
• Add, delete, modify interventions?
References


References


Wound and Skin Care Resources

• Agency for Healthcare Research and Quality www.ahrq.org
• American Diabetes Association* www.diabetes.org
• American Physical Therapy Association* www.apta.org
• Association for the Advancement of Wound Care (AAWC) www.aawconline.org
• Dermatology Nurses Association* www.dnanurse.org
• National Association for Continence (Formerly HIP)* www.nafc.org
• National Pressure Ulcer Advisory Panel (NPUAP) www.npuap.org
• Wound Ostomy and Continence Nurses Society www.wocn.org
Questions?

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