Wound Care – Geriatrics

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OBJECTIVE

- Consider Nutrition
- Review Pressure Reduction Devices
- Accurately Describe The Wound
- Select Dressing Options
- Describe Staging and Depth
Reference Material

- **Websites**
  - www.medicaledu.com
  - www.wound.com
  - www.woundcaresociety.org
  - www.woundcare.org
  - www.aawcone.com

- **Journals**
  - www.journalofwoundcare.com
  - www.aswcjournal.com
  - www.o-wm.com
Nutritional Considerations

- Encourage adequate food and fluid intake
- **Vitamin Therapy**
  - Vit C 500 mg po bid – essential for collagen formation
  - MVI one po daily – adequate nutrition insurance
  - Vit A 10,000 units po daily x 21 days; up to 25,000 units in the immunocompromised – protects wound cells from senescence
  - Zinc 220 mg po daily x 21 days – nutrient in cell formation
- **Protein and Calories**
  - Boost, Ensure, Nutrashake
- Needs increase with open wounds
Review Reduction Devices

- **Beds**
  - Foam
  - Dynamic Air
  - Low Air Loss
  - Air – Fluidized

- **Seating**
  - Foam
  - Air Cushion
  - Gel
  - Specialized - Roho

DON’T FORGET
** ** TURN Q2 HOUR IN ALL BEDS
** ** UP IN CHAIR PRESSURE RELIEF Q30 MINUTE ON ALL CUSHIONS
Pressure Points in Adults

SUPINE POSITION

- Occiput 1%
- Spine 1%
- Sacrum 23%
- Heel 8%
- Scapula 0.5%

LATERAL POSITION

- Elbow 3%
- Knee 6%
- Malleolus 7%
- Trochanter 15%

SITTING POSITION

- Elbow 3%
- Ischium 24%
Preparation for Examination

- **Supplies:**
  - Gauze
  - Bottle NS or NS
  - Respiratory “bullets”
  - Q-tips

- **Patient Position:**
  - To enhance exam
  - Limit strain on examiner
  - Optimize photography
Wound Description Phrase – putting it all together

There is a (size) wound on the (location) with (undermining cm) at (time) o’clock and (tunneling cm) at (time) o’clock that has a (wound be color %) with (exudate amount, color, and odor) and the surrounding skin is (visual and/or temperature description).
Wound Description Phrase – putting it all together

- Location
- Size
- Undermining
- Tunneling
- Exudate
- Periwound
**Wound Description Phrase – putting it all together**

<table>
<thead>
<tr>
<th>Location</th>
<th>Exudate</th>
<th>Tunneling</th>
<th>Periwound</th>
<th>Undermining</th>
<th>Size</th>
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Pressure Ulcer Staging

- Suspected Deep Tissue Injury
  - New classification in 2007
  - Purple/maroon discolored skin that is intact or has blood filled blister
  - Tissue before appearance of discoloration may be boggy, mushy, unusually firm, painful, warmer or cooler compared to surrounding skin
  - Wound may continue to progress even with optimal treatment
Pressure Ulcer Staging

- **Stage I**
  - Intact skin with blanchable redness; darkly pigmented skin may not blanch but be darker than surrounding tissue

- **Stage II**
  - Partial thickness loss of dermis with a red/pink wound bed
  - No slough, no necrotic material
  - Heals by epithelialization from the hair follicle
  - Do not use to describe skin tears, tape burns, perineal dermatitis, maceration or excoriation
Stage I
Stage II
Pressure Ulcer Staging

- **Stage III**
  - Full thickness tissue loss with subcutaneous fat present
  - Slough or necrotic tissue may be present but does not obscure depth of wound
  - NO exposed muscle, bone or tendon

- **Stage IV**
  - Full thickness tissue loss with exposure of muscle, bone or tendon
Stage IV
Pressure Ulcer Staging

- Unable to Stage
  - Full thickness tissue loss
  - Base of wound covered by slough (yellow, tan, grey, green, brown) or eschar (tan, brown, black)
  - Until base of wound is exposed, true depth, or stage can not be determined
  - Stable eschar (dry, adherent, intact without erythema or fluctuance) on the heels should not be removed and are considered the body’s natural “biological” covering
On average*, a pressure ulcer 2.075 mm or deeper is classified at least as a Stage III.

*Skin sample enlarged to show detail.
Arterial, Venous, and Surgical Thickness

- Partial Thickness - involving epidermis, dermis, or both. The ulcer is superficial and presents clinically as an abrasion, blister, or shallow center (Same as Stage II).

- Full Thickness - skin loss with extensive destruction, tissue necrosis, or damage to muscle, bone, or supporting structures (e.g., tendon, joint capsule). Undermining and sinus tracts also may be present (Same as Stage IV).

- Magnitude of depth can best be described by naming visible structures in wound
Diabetic Grading System

Table 1: Wagner's Classification For Foot Ulcers

- **Grade 0** - Pre-ulcerative lesion, healed ulcers, presence of bony deformity
- **Grade 1** - Superficial ulcer without subcutaneous tissue involvement
- **Grade 2** - Penetration through the subcutaneous tissue (may expose bone, tendon, ligament or joint capsule)
- **Grade 3** - Osteitis, abscess, or osteomyelitis
- **Grade 4** - Gangrene of the forefoot
- **Grade 5** - Gangrene of the entire foot
Dressing Types

- Basic
  - Hydrogel
  - Transparent Dressing
  - Hydrocolloid
  - Acrylic
  - Foam
  - Calcium Alginate
  - Hydrofiber
  - Zinc Based Cream
  - Betadine
  - Xenaderm (Balsam of Peru, Trypsin, Castor Oil)

- Specialty Dressings
  - Silver impregnated
  - Skin substitutes
  - Platelet derived
  - Negative Pressure Therapy
  - Hyperbaric Treatments
  - Debridement Ointments
  - Compression
  - Copper Chlorophyllin Complex
  - Collagen Dressing
  - Cadexomer Iodine
  - Integra – bovine collagen with shark cartilage and silicone barrier
Dressing Types - Transparent

- **Goal . . .**
  - Protection of skin tears, maintain moisture

- **Wound Bed is . . .**
  - Shallow
  - Skin Tear
  - Little to NO drainage
  - Small < 6cm round
  - Best used on the extremities or trunk; avoid the sacrum

- **Cover entire wound surface including 2 cm around wound with dressing**

- **Change every 7 days**
Dressing Types – Hydrogel

- Goal . . .
  - Keep wound bed moist, add moisture or assist with autolytic debridement

- Wound Bed Is . . .
  - Dry
  - Barely Moist
  - Little Drainage
  - Red = Granulation Bed
  - Moist Necrotic Tissue Either Yellow or Black
  - May be used at any body location effectively

- Hydrogel to entire wound bed + NS gauze + cover with dry gauze + occlusive tape 2 cm around

- Change Daily to Every Other Day
Dressing Type - Hydrocolloid

- **Goal** . . .
  - Absorb small to moderate amounts of drainage for shallow wounds

- **Wound Bed is** . . .
  - Red
  - Very Shallow
  - Small to moderate amount of drainage
  - Best used on the extremities or trunk; avoid the sacrum

- **Apply to entire wound bed with 2 cm around wound bed**

- **Change every 3-5 days**
Dressing Type - Acrylic

- **Goal . . .**
  - Absorb moderate amounts of drainage for shallow wounds
  - Hydrocolloid falling out of favor in many settings and this is newest substitution

- **Wound Bed is . . .**
  - Red
  - Very Shallow
  - Moderate amount of drainage
  - Can be used anywhere on body

- Apply to entire wound bed with 2 cm around wound bed
- Change every 7 days
**Dressing Type - Foam**

- **Goal . . .**
  - Absorb moderate to large amounts of drainage for shallow wounds
  - If hydrocolloid not lasting may want to bump up to foam

- **Wound Bed is . . .**
  - Red
  - Shallow
  - Moderate to large amount of drainage
  - Best used on the extremities or trunk; avoid the sacrum

- **Apply directly to wound bed with 2 cm surrounding skin overlap**

- **Change every 3-5 days**
Dressing Type - Alginate

- **Goal . . .**
  - Absorb large to copious amounts of drainage for shallow or deep wounds
  - Hemostasis
  - Again, foam not working so bump it up
  - Absorbs 20 times its weight

- **Wound Bed is . . .**
  - Red or slough but not black necrotic
  - Shallow
  - Large to copious amount of drainage
  - New wound usually so lots of output
  - May be used at any body location effectively

- **Cover or Fluff into wound bed, cover with dry gauze, secure with tape occlusively**
- **Change every day or every other day**
Dressing Type Hydrofiber

- Goal . . .
  - Absorb large to copious amounts of drainage for shallow or deep wounds
  - Hemostasis
  - Again, foam not working so bump it up
  - Absorbs 3 times Alginate

- Wound Bed is . . .
  - Red or slough but not black necrotic
  - Shallow
  - Large to copious amount of drainage
  - New wound usually so lots of output
  - May be used at any body location effectively

- Cover or Fluff into wound bed, cover with dry gauze, secure with tape occlusively
- Change every day or every other day
Dressing Type – Zinc Based Cream

- **Goal . . .**
  - To treat superficial wounds while protecting surrounding skin from moisture

- **Wound Bed is . . .**
  - Superficial with lower dermis still intact
  - Good for groin, buttock, sacrum
  - Good for incontinence maceration and break down
  - Works well around macerated tube sites
  - Wound is not “developing” but stable

- **Apply thin layer of cream to affected area and surrounding skin**

- **Apply twice daily and PRN incontinence**
Dressing Type – Xenaderm

- **Goal . . .**
  - To treat superficial wounds while protecting surrounding skin from moisture
  - Best for developing Stage I or II and/or deep tissue injury newly diagnosed
  - May prevent progression to deeper injury

- **Wound Bed is . . .**
  - May have break in dermis but typically superficial
  - Good for groin, buttock, sacrum, skin tears
  - Good for incontinence maceration and break down

- **Apply thin layer of cream to affected area and surrounding skin**

- **Apply twice daily, no cover dressing, no massage**
Dressing Type - Betadine

- **Goal . . .**
  - Keep necrotic tissue dry
- **Wound Bed is . . .**
  - Dry and black
  - On the heel or toes
  - Stable injury not getting bigger
  - May be awaiting vascular consult for arterial etiology

- Apply betadine to wound and surrounding skin
- Twice daily
Diagnosis: Stage I and Stage II pressure ulcer complicated by maceration

Wound Description Example

- There is a 10x6cm wound on the bilateral buttock/coccyx with no undermining and no tunneling that has 100% epithelial tissue with a small amount of tan, nonodorous drainage and the surrounding skin is pink and moist.

Dressing: Zinc oxide twice daily to protect and prevent further breakdown.
Wound Description Example

Zinc Oxide Paste
Diagnosis: Skin tear left arm partial thickness.

Wound Description Example

- There is a 1.5x2cm wound on the Left forearm with no undermining or tunneling that has 100% skin flap covering wound bed with a small amount of nonodorous serosanguinuous drainage and the surrounding skin is warm, intact, and bruised without edema.

Dressing: Steri-strip flap and apply transparent dressing or if exudating then try acrylic
Diagnosis: Skin tear right arm partial thickness.

Wound Description Example

- There is a 2x1cm wound on the right forearm with no undermining or tunneling that has 50% epithelial and 50% residual tissue/scab wound bed with a small amount of nonodorous serosanguinous drainage and the surrounding skin is warm, intact, and bruised without edema.

Dressing: Transparent dressing or if exudating, acrylic
Diagnosis: Arterial ulceration of the left greater toe unable to stage

Wound Description Example

- There is a 2x1cm wounds on the left greater toe with no undermining or tunneling that has 100% necrotic tissue with no drainage and the surrounding skin is mottled, painful, and erythematous.

Dressing: Betadine once daily (increase to twice daily if moistens)
Diagnosis: Status post head trauma with scalp avulsion injury full thickness bone exposed

Wound Description Example

- There is a 15x4cm wound on the forehead and above the left eye on the head with no undermining or tunneling that has 60% bone and 40% granulation wound bed with a moderate amount of nonodorous serosanguinous drainage and the surrounding skin is warm and intact

Dressing: Hydrogel daily
Diagnosis: This is a grade 2 or stage 3 diabetic ulceration of the plantar left 3rd metatarsal full thickness

Wound Description Example

- There is a 4x2cm wound on the plantar surface of the left foot with no undermining and no tunneling that has 100% granulation tissue with minimal, nonodorous, pink drainage and the surrounding skin is intact with surrounding callous.

Dressing: hydrogel plus foam pad and specialized shoe from podiatry
Diagnosis: Multiple full thickness venous ulcerations of the bilateral lower extremities

Wound Description Example

- There are multiple wounds ranging from 1x1.5cm - 7x3cm of the bilateral lower extremities with no undermining and no tunneling that has 100% granulation of right lower extremity wounds and 50% granulation and 50% slough of left lower extremity wounds with copious, moderately odorous, thick, tan drainage and the surrounding skin is dry, scaly, hyperpigmented, hemosiderin with 4+ pitting edema

Dressing: Silver impregnated gauze, covered with calcium alginate, covered with foam, and wrapped in compression from toe to knee
Diagnosis: Stage IV coccyx pressure wound with surrounding fungal rash

**Wound Description Example**

- There is a 5x3x1cm wound on the coccyx with undermining at 11-1 o’clock and no tunneling that has 40% slough vs fibrinous tissue, 40% muscle tissue and 20% granulation tissue with copious, nonodorous, clear drainage and the surrounding skin has an erythematous papular rash with coalescence at the margins of the wound with satellite lesions extending out from the wound.

**Dressing:** Calcium alginate or if saturating alginate, try hydrofiber and mycostatin to surrounding skin.
Diagnosis: Deep Tissue Injury – may progress

**Wound Description Example**

- There is a 5x4 cm wound on the left heel with no undermining and no tunneling that has 100% blister intact cap with visible blood component with no drainage and the surrounding skin is pink and intact

Dressing: Betadine; if this were to open, debride blister cap and make alternate dressing selection based on wound characteristics
Diagnosis: Unable to stage pressure ulcer

There is a wound measuring 6x4cm on the sacrum with no undermining and no tunneling that has 100% moist necrotic tissue with copious, strong odor, tan drainage and the surrounding skin is macerated, red.

Dressing: Surgical debridement 1st, calcium alginate for drainage management and hemostasis and then ultimately switched to hydrogel.
Diagnosis: Full Thickness wound from “fracture blister” after significant pelvic injury and edema

Wound Description Example

- There is a 35x20cm wound on the left posterior and medial thigh with no undermining and no tunneling that has 90% eschar and 10% pink epithelial tissue with a copious amount of foul odor serosanguinous and tan drainage and the surrounding skin is intact with large amount of non pitting edema.

Dressing: Tried to cross hatch and apply debridement ointment but eschar to thick so Debride and . . .
Dressing: Then . . . Hydrogel, ns gauze, dry gauze, daily, then . . .
Diagnosis: Unable to stage pressure ulcer of bilateral Achilles area

Wound Description Example

- There is a 4x2cm wound of right Achilles heel and 2x1cm of left Achilles heel with no undermining and no tunneling that has 100% dry hard eschar with no exudate and the surrounding skin is intact and dry with some flaking

Dressing: Betadine daily; remove multipodous boot as cause of injury
Diagnosis: Full Thickness trauma wound status post GSW to the abdomen with complication of compartment syndrome

Wound Description Example

- There is a 17x8 cm wound on the abdomen with undermining 3cm at 7-9 o’clock and no tunneling that has 60% granulation tissue and 40% slough with a large amount of tan, yellow, slightly odorous drainage and the surrounding skin is pink, dry, and intact (and tattoo)

Dressing: was negative pressure therapy but not appropriate with this amt. of slough so switch to debridement ointment on slough and hydrogel on granulation tissue
Diagnosis: Full Thickness wound after exploratory lap

Wound Description Example

- There is a 20x4cm wound on the abdomen with no undermining and no tunneling that has 100% granulation tissue with a large amount of serosanquinous nonodorous drainage and the surrounding skin is pink, dry, and intact.

Dressing: negative pressure therapy changed M, W, F was used but could easily use Calcium Alginate or hydrogel if drainage were to slow down.
Conclusion

- Questions
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