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- o Acute-generally heal in a couple weeks, but can become chronic:
  - Surgical
  - Trauma
- o Chronic-do not heal by normal repair process-takes weeks to months:
  - Vascular-venous stasis, arterial ulcers
  - Pressure ulcers
  - Diabetic foot ulcers (neuropathic)





# • • • Chronic Wounds







## • • Pressure Ulcer Staging







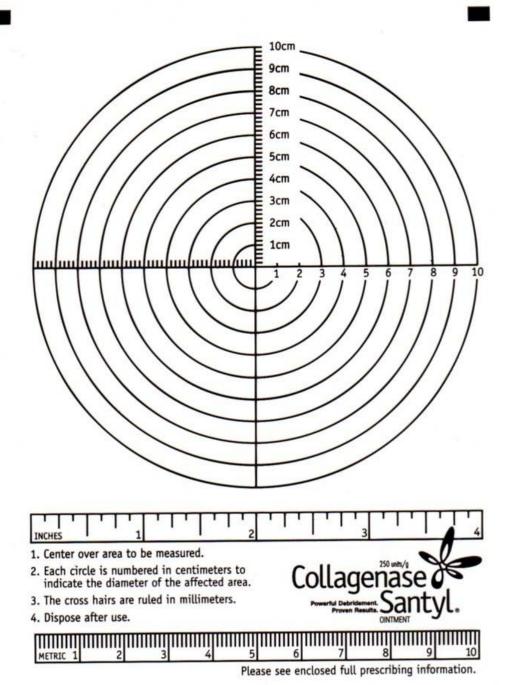








- o Where is it located?
  - Use anatomical location-heel, ankle, sacrum, coccyx, etc.
- Measurements-in centimeters
  - Length X Width X Depth
    - Length = greatest length (head to toe)
    - Width = greatest width (side to side)
    - Depth = measure by marking the depth with a Q-Tip and then hold to a ruler



# Wound Characteristics:

- o Describe by percentage of each type of tissue:
  - Granulation tissue:
    - red, cobblestone appearance (healing, filling in)
  - Necrotic:
    - Slough-yellow, tan dead tissue (devitalized)
    - Eschar-black/brown necrotic tissue, can be hard or soft





### Undermining

- Separation of tissue from the surface under the edge of the wound
  - Describe by clock face with patients head at 12 ("undermining is 1 cm from 12 to 4 o'clock")

### Tunneling

- Channel that runs from the wound edge through to other tissue
  - "tunneling at 9 o'clock, measuring 3 cm long"

# • • • Wound Drainage and Odor

#### Exudate

- Fluid from wound
  - Document the amount, type and odor
    - Light, moderate, heavy
    - Drainage can be clear, sanguineous (bloody), serosanguineous (blood-tinged), purulent (cloudy, pus-yellow, green)

#### Odor

- Most wounds have an odor
- Be sure to clean wound well first before assessing odor (wound cleanser, saline)
  - Describe as faint, moderate, strong



- Consider use of Skin Prep or equivalent product to protect periwound tissue
- Periwound-tissue around wound
  - Viable, macerated, inflamed
    - Color-erythema (purple appearance on dark skin), pale
    - Texture-dry, moist, boggy (soft), macerated (white, soggy appearance), edema
    - Temperature-cool, warm
    - Skin integrity-lesions, excoriation, maceration, denuded (loss of epidermis)



## • • Is the wound infected?



- All wounds are contaminated, but not necessarily infected:
  - Contamination-microorganisms on wound surface
  - Colonization-bacteria growing in wound bed without signs or symptoms of infection
  - Critical colonization-bacterial growth causes delayed wound healing, but has not invaded the tissue
  - Infection-bacteria invades soft tissue, causes systemic response



Inflammation, pus, increase/change in exudate, fever, pain, delirium in elderly





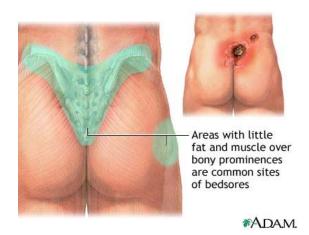
# Other factors that contribute to wound healing:

- Nutrition/hydration
  - Protein
- Circulation
  - Pressure relief
  - Oxygenation
  - No tobacco
- o Edema
- o Glucose control Diabetics



## • • PUP-the highpoints

- Minimize friction, sheer, and pressure
  - Repositioning every 1-2 hours
    - Necessary even when using specialty beds, in chair
  - HOB <30 degrees</li>
  - Elevate heels
- Incontinence
  - Scheduled toileting
  - Frequent changing, skin barrier
- Nutrition
  - R.D. assessment
  - Calories, protein, supplements
- Education
  - Staff, resident, families







#### o DO:

- Relieve pain, especially prior to dressing change
- RELIEVE PRESSURE!
  - TURN AT LEAST EVERY 1-2 HOURS!
  - Consider specialty support surfaces for bed/chair
- Fill in dead space if wound is deep
- Protect skin from incontinence by using barrier cream
- Protect periwound tissue by using Skin Prep

#### o DO NOT:

- DO NOT use wet-to-dry dressings!
- DO NOT wrap tape completely around an extremity!
  - Tourniquet effect
- DO NOT pull dressing off a wound
  - Can cause further tissue damage
    - Soak to remove





### **Dressing selection**

- Determined by condition of the wound bed
- Determine dressing according to amount of exudate (drainage)
- Consider cost and availability of dressings at your institution \$\$\$\$\$
- Assess wound at least <u>every 2 weeks</u> and change treatment if not improved
- If not healing or questions about dressing selection, consult WOC nurse

# • • • Cleansing the wound bed:

- o Be gentle!
- o Saline or wound cleanser





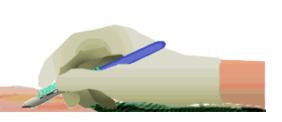






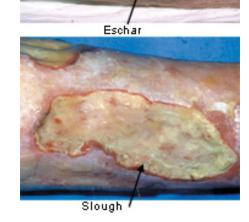
- Necrotic tissue increases bioburden
  - Contamination vs. colonization vs. infection
- Debridement-remove devitalized tissue
  - Autolytic-body's enzymes in drainage
  - Enzymatic-Santyl
  - Sharp-surgical
  - Biologic-maggots
- If malodorous wound, try Xeroform gauze or Flagyl gel





# • • • • Management of devitalized tissue

- o Eschar-black necrotic tissue
- Slough-soft, moist, avascular tissue



- Firm, dry, stable eschar should **not** be debrided from heels
  - May not have adequate circulation to heal wound

## **Dressings:**



- Manage drainage while maintaining a moist environment
  - Maceration
  - Excoriation
- o Basically 5 categories:
  - Films
  - Hydrogel
  - Hydrocolloids
  - Alginates















- Films-retain moisture, protect from infection
- Hydrogel-creates moist environment, not for excessive drainage
- o Hydrocolloid-moist environment, promotes autolytic debridement

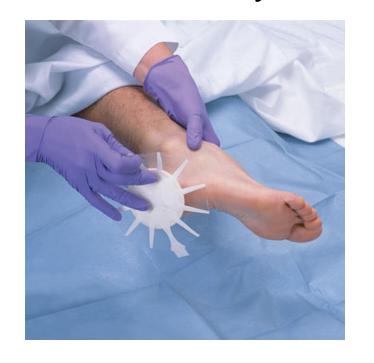






# • • • • Dressings that absorb moisture

- o Foams for moderate drainage
- Calcium alginate for moderate to heavy drainage, hemostasis









- Antimicrobial dressings for wound contamination
  - Antibiotics only for infected wounds (not just colonized/contaminated)
- Cultures not generally recommended because all wounds are contaminated
  - If culture indicated, cleanse wound bed with saline, then express drainage from wound bed.

## **Specialty Dressings**

- o Antimicrobial dressings
  - Silver
  - Cadexomer iodine
- Specialty Treatments
  - Vacuum-assisted wound treatments
  - Hyperbaric oxygen treatment









o John A. Hartford Foundation, Institute for Geriatric Nursing:

http://www.hartfordign.org/index.html

How to Try This: Braden scale video/article/CEU's: <a href="http://www.nursingcenter.com/prodev/ce\_article.asp?tid=7514">http://www.nursingcenter.com/prodev/ce\_article.asp?tid=7514</a>

• National Pressure Ulcer Advisory Panel:

http://npuap.org/

o Braden Scale:

http://www.bradenscale.com/default.htm



• Agency for Healthcare Research and Quality:

Clinical Practice Guidelines:

http://www.ahrq.gov/clinic/cpgonline.htm

• National Guideline Clearinghouse:

Guideline for prevention and management of pressure ulcers:

http://www.guideline.gov/summary/summary.aspx?ss= 15&doc\_id=3860&nbr=3071