

### **OBJECTIVES**

- Discuss skin changes as we age
- Describe infection prevention implications
- ► Discuss wound care management program



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# SKIN CHANGES RELATED TO AGING



- ▶ Thinner, more fragile-thickness decreases 20%
- ▶ Reduced dermal vascularity-Fewer nutrients so ability to heal is impaired
- ▶ Decreased collagen production
- Less adhesion between skin layers-tears more easily
- ▶ Redistribution of fat
- ▶ Decrease in sensation

Increased potential for skin break down, decubitus ulcers

▶ Decrease in sweat production-increase in dryness

Nursing2003:January 2003-Volume 33-Issue 1-84 Wound and skin care; Zulkowski, Karen RN, CWs, DNS

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### SKIN, SOFT TISSUE AND WOUND INFECTIONS

- ► A wound is a tissue injury caused by such trauma as cutting, piercing or tearing.
- ► Wounds are classified as acute or chronic.
  - Acute wounds usually close with minimal intervention
  - ► Chronic wounds require aggressive treatment and care

Infection Prevention Guide: To Long-Term Care:2<sup>nd</sup> edition: APIC

Table 6:2: Possible reasons for wounds
Surgery (infection is SSI)
Impaired blood flow from venous and arterial insufficiency
Neuropathy and impaired sensation form diabetes or multiple sclerosis
Pressure, usually over a bony prominence, resulting a pressure ulcer Burns
Injury

Terminal illness

# RISK FACTORS FOR PRESSURE INJURY DEVELOPMENT

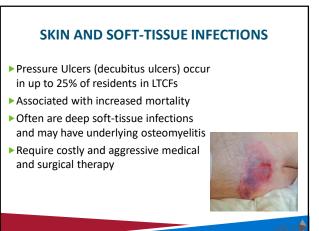
- ▶ Fever
- ▶ Anemia
- ► Infection
- ► Hypotension
- ► Malnutrition
- Iviailiuti itioii
- ► Spinal Cord Injury ► Neurological disease
- Decreased body Mass index
- ► Chronic illness (diabetes)
- ▶ Immobility

- ► Skin conditions such as edema and pruritis
- ► Incontinence
- ▶ Increased metabolic rate
- ► Skin maceration
- ▶ Ischemia
- ► Advanced age
- ▶ Weakness
- ► Altered mental status
- ► Vascular disease
- ▶ History of pressure ulcer

Infection Prevention Guide: To Long-Term Care: 2nd edition: APIC

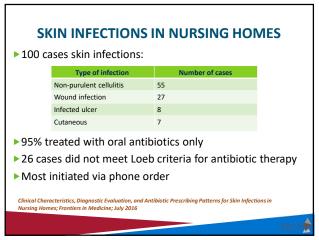
Table 6.4:Interventions to Prevent Skin Breakdown Skin Care with a pH-balanced cleanser Assess skin integrity frequently rather than soap Application of a moisture barrier to the Avoid friction and shearing forces Changing pads frequently for incontinent Optimizing blood supply and tissue Repositioning every 2 hours Providing enteral or parenteral support Pressure-reducing mattress Preventing muscle spasms that can lead to abrasions Reducing edema Preventing contracture that impede flexibility and mobility Use pressure-relieving cushions Maintaining warmth and preventing chilling of the extremities Decreased body mass index Maintaining glycemic control Infection Prevention Guide: To Long-Term Care: 2nd edition: APIC SPICE

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SKIN, SOFT TISSUE AND MUCOSAL INFECTIONS More than one resident with streptococcal skin A. Cellulitis/soft tissue/wound infection infection from the same serogroup (e.g., A, B, C, G) in a LTCF may suggest an outbreak At least one of the following criteria is present 1. Pus present at a wound, skin, or soft tissue site 2. New or increasing presence of at least four of For wound infections related to surgical the following sign/symptom sub-criteria procedures: LTCF should use the CDC's NHSN a) Heat at affected site surgical site infection criteria and report these infections back to the institution performing the b) Redness at affected site original surgery c) Swelling at affected site Presence of organisms cultured from the surface (e.g., superficial swab culture) of a wound is not sufficient evidence that the wound is infected d) Tenderness or pain at affected site e) Serous drainage at affected site f) One constitutional criteria

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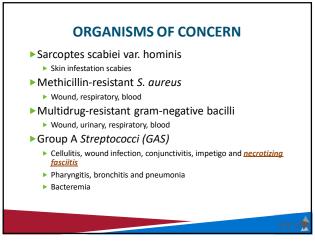


BACTERIAL LEVELS IN THE WOUND

Contamination
Coloration
Uniciden
U

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ORGANISMS OF CONCERN

 Healthcare-associated transmission of GAS has been documented from residents to healthcare personnel and from healthcare personnel to residents
 Contact or dispersal of respiratory secretions are the major modes of transmission in HC settings
 Can cause severe, life-threatening invasive disease, including pneumonia, streptococcal toxic-shock syndrome (STSS) and necrotizing fasciitis.

https://www.cdc.gov/groupastrep/downloads/ltcf-decision-tool-508.pdf

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#### **GAS**

Residents with suspected or confirmed GAS infection or colonization should be placed on appropriate transmission-based precautions pending culture results:

- ▶ Wound—Residents with GAS cultured from a wound, ostomy, or deviceinsertion site should remain on contact and droplet precautions until 24 hours after the initiation of effective antibiotic therapy and any wound drainage stops or can be contained by a dressing. HCP should then return to use of EBP.
- ▶ Throat—Residents with GAS cultured from their throat should remain on droplet precautions until 24 hours after the initiation of effective antibiotic therapy. Note: Continued use of a facemask by HCP during all wound care activities or when handling invasive medical devices is recommended until the outbreak is over.

https://www.cdc.gov/groupastrep/downloads/ltcf-decision-tool-508.pdf

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# **WOUND MANAGEMENT PROGRAM**

- ► Multidisciplinary approach
  - ▶ <u>Medical Director</u>: Provides oversight and support from prevention to treatment
  - Facility Administrator: Ensures availability of guideline treatments, provision of therapeutic surfaces, oversees PI activities and audits and collaborates with the Medical Director
  - Director of Nursing (DON): Consistency in wound rounds, turning regimens,
  - Certified wound specialist: Collaborates with all members of the wound team, provides wound prevention and management education to all clinicians, residents and families
  - Other Members:
    - ▶ Educator, Unit manager, all nursing staff, dietitians, nursing assistants and social services

Wound Care Management: Jeanine Maguire; Today's Geriatric Medicine; Vol. 7 No. 2 P.14

### ASSESSING RISK FOR SKIN BREAKDOWN

- ▶ Risk Assessment Tools
  - ▶ Braden Scale Score (score 18 or less = at risk)
  - ▶ Norton Score (score 14 or less = at
- ▶ Policy to define when risk assessment is repeated
- ▶ Interventions/Protocol to address risk elements



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#### **WOUND CARE POLICIES**

- ▶ When sterile versus clean technique will be used
- ► What cleaning/disinfection practices are in place for equipment (i.e., beds, mattresses, whirlpool)
- ▶ Documented training and competencies (wound care nurse and other staff)
- ▶ Wound cleaning products
- Dressing type(s)
  - ▶ Alginates, Foams, Gauze, Hydrocolloids, Hydrogels, Transparent films
  - Negative pressure therapy using a wound VAC
  - Hyperbaric oxygen therapy, silver impregnated dressings.

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#### **DOCUMENTATION**

Document all aspects:

- Assessment
  - Patient
  - Wound specifics (pain, slough)
  - Identify modifiable risk factors for poor healing
- Objectives
  - Short- and long-term management/prevention
- Treatment
  - ▶ Underlying wound etiology Modifiable factors
  - Education of resident/family
- Evaluation
  - Objectives/assess outcomes
  - Prevention Strategies

**WOUND CULTURES** 

- ► Tissue biopsy
- ► Gold standard; invasive; skill required
- ▶ Needle-aspiration
  - Requires skill and beyond scope of nursing practice
- ▶ Swab culture technique
  - ▶ Widely available
  - ► Clean wound prior to culture
  - ▶ Levine technique: Moisten swab with
  - ► Rotate swab over a 1 cm square area with sufficient pressure to express fluid from wound tissue
  - ▶ Has been correlated to tissue biopsy results



(Levine, 1976)

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# WOUND CARE - ROLE OF ANTIBIOTICS

- ▶ All wounds are colonized with microbes; however, not all wounds are infected.
- Antibiotic therapy is not indicated for all wounds and should be reserved for wounds that appear clinically infected.
- ► There is no published evidence to support antibiotic therapy as "prophylaxis" in <u>noninfected chronic wounds.</u>
- Clinical signs of wound infection that warrant antibiotic therapy include local (cellulitis, lymphangitic streaking, purulence, malodor, wet gangrene, osteomyelitis) and systemic (fever, chills, nausea, hypotension, hyperglycemia, leukocytosis, confusion) symptoms

https://www.uptodate.com/contents/basic-principles-of-wound-management

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# DOES <u>ALL</u> WOUND CARE NEED TO BE DONE WITH STERILE TECHNIQUE?



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## **STERILE TECHNIQUE**

- Sterile is generally defined as meaning <u>free</u> <u>from microorganisms</u>.
- Reduce exposure to microorganisms and maintain objects and areas as free from microorganisms as possible.
- Meticulous hand washing, use of a sterile field, use of sterile gloves for application of a sterile dressing, and use of sterile instruments.
- Most appropriate in acute care hospital settings, for patients at high risk for infection, and for certain procedures such as sharp instrumental wound debridement.



### **WOUND CARE ISSUES**

- Present literature suggests that pressure ulcer dressing protocols may use clean technique rather than sterile, but that appropriate sterile technique may be needed for those wounds that recently have been surgically debrided or repaired.
- ▶ © National Pressure Ulcer Advisory Panel March 2014

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**CLEAN TECHNIQUE** 

- Clean means free of dirt, marks, or stains.
- Reduce the overall number of microorganisms or to prevent or reduce the risk of transmission of microorganisms from one person to another or from one place to another.
- Meticulous handwashing, maintaining a clean environment by preparing a clean field, using clean gloves and sterile instruments, and preventing direct contamination of materials and supplies.
- No "sterile to sterile" rules apply.
- This technique may also be referred to as non-sterile.
- Most appropriate for:
  - Long-term care, home care, and some clinic settings;
  - Patients who are not at high risk for infection;
  - Patients receiving routine dressings for chronic wounds such as venous ulcers, or wounds healing by secondary intention with granulation tissue.

#### **GENERAL RULES FOR CHANGING DRESSINGS**

- Disinfect area around bedside where supplies are going to be placed (over bed table etc.,)
- ✓ Place trash bag near by
- ✓ Perform hand hygiene
- ✓ Gather all necessary supplies, equipment
- ✓ Don clean disposable gloves
- Remove tape and outer dressings and dispose of in trash container
- ✓ Assess the wound for color, edema, exudate, odor etc.,
- Remove soiled gloves, dispose of and perform hand hygiene
- ✓ Put on clean gloves
- ✓ Apply dressing and secure
- ✓ Dispose of all supplies
- Remove gloves and perform hand hygiene

### WHAT ABOUT SCISSORS?

- Wound/bandage scissors are <u>non-critical</u> devices, i.e., contacts intact skin only.
- ▶ Disposable best option if feasible
- ► Dedicate to resident if on transmission-based precautions
- Must be cleaned and disinfected with an EPA registered healthcare disinfectant <u>after each use.</u>
- Scissors labeled as single use should be discarded after a single

If used for debridement or wound management (contact with wound) must be sterile



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### **POINTS TO REMEMBER**



- Contamination of the wound is minimized by not touching it. Blotting excess fluid that pools in the wound and cleaning the peri-wound skin with moist gauze is acceptable.
- Contamination of the wound from supplies is avoided by opening and preparing all that is needed before removing the dressing and putting on fresh clean gloves.
- Contamination of the local environment and supplies is avoided by organizing the procedure to ensure that anything in contact with the wound does not contact jars, bottles, tubes, bedside table or supplies to be kept for use later.
- Residents with wounds should be placed on enhanced barrier precautions

### **WOUND DRESSING CHANGE SUMMARY**

- ▶ Dedicated wound dressing change supplies and equipment gathered/accessible prior to starting procedure
- ▶ Additional PPE worn to prevent body fluid exposure
- ► Multi-dose wound care medications (i.e., ointments, creams) should be <u>dedicated to single resident</u> whenever possible or a small amount of medication should be aliquoted into <u>clean container for single-resident</u> use
- ► Meds should be stored properly in centralized location and never enter a resident treatment area

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### **WOUND DRESSING CHANGE SUMMARY**

- ► Gloves should be changed and HH performed when moving from dirty to clean wound care activities
- ▶ Debridement or irrigation should be performed in a way to minimize cross-contamination of surrounding surfaces
- ➤ Any surface (including reusable medical equipment)in the resident's immediate care area contaminated during a dressing change should be cleaned and disinfected
- ▶ Wound care is documented
- Wound care supply cart should never enter the resident's immediate care area <u>nor</u> be accessed while wearing gloves or without performing HH first

| Wound Dressing Change Observations | Mill performed Change Chief per | Mill performed Chief performed Chief per | Mill performed Chief per | Mill performed Chief perform

