



# WOUND MANAGEMENT IN THE ELDERLY

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# OBJECTIVES

- ▶ Discuss skin changes in elderly
- ▶ Discuss wound care management program
- ▶ Discuss infection prevention implications



# SKIN CHANGES RELATED TO AGING

- ▶ Thinner, more fragile
- ▶ Reduced dermal vascularity
- ▶ Decreased collagen production
- ▶ Less adhesion between skin layers
- ▶ Redistribution of fat
- ▶ Decrease in sensation
- ▶ Decrease in sweat production



# BASICS FOR MAINTAINING SKIN INTEGRITY

- ▶ Assessment
- ▶ Movement
- ▶ Skin Care
- ▶ Pressure Relief
- ▶ Nutrition and Hydration
- ▶ Education
- ▶ Communication

*“Aging skin and the importance of skin integrity assessment”; Article by Bonnie Fraser  
HealthTimes*

# PREDISPOSING FACTORS TO WOUND INFECTIONS

- ▶ Immobility
- ▶ Pressure
- ▶ Friction
- ▶ Shear
- ▶ Moisture
- ▶ Incontinence
- ▶ Steroids
- ▶ Malnutrition
- ▶ Infection at other sites
- ▶ Reduced nursing time

- ▶ Pressure Ulcers (decubitus ulcers) occur in up to 25% of residents in LTCFs
- ▶ Associated with increased mortality
- ▶ Often are deep soft-tissue infections and may have underlying osteomyelitis
- ▶ Require costly and aggressive medical and surgical therapy

# WOUND MANAGEMENT PROGRAM

- ▶ Multidisciplinary approach
  - ▶ Medical Director: 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



# ASSESSING RISK FOR SKIN BREAKDOWN

- ▶ Risk Assessment Tools
  - ▶ Braden Scale Score (*score 9 or less = high risk*)
  - ▶ Norton Score (*score 14 or less = high risk*)
- ▶ Policy to define when risk assessment is repeated
- ▶ Interventions/Protocol to address risk elements

PHYSICAL CONDITION	GOOD	4
	FAIR	3
	POOR	2
	VERY BAD	1
MENTAL CONDITION	ALERT	4
	APATHETIC	3
	CONFUSED	2
	STUPOROUS	1
ACTIVITY	AMBULANT	4
	WALKS WITH HELP	3
	CHAIRBOUND	2
	BEDRIDDEN	1
MOBILITY	FULL	4
	SLIGHTLY IMPAIRED	3
	VERY LIMITED	2
	IMMOBILE	1
INCONTINENCE	NONE	4
	OCCASIONAL	3
	USUALLY URINARY	2
	URINARY AND FECAL	1

Add up residents' scores, and evaluate their risk according to this table:

OVER 18	LOW RISK
BETWEEN 18 AND 14	MEDIUM RISK
BETWEEN 14 AND 10	HIGH RISK
LESS THAN 10	VERY HIGH RISK



# DOCUMENTATION



Document all aspects:

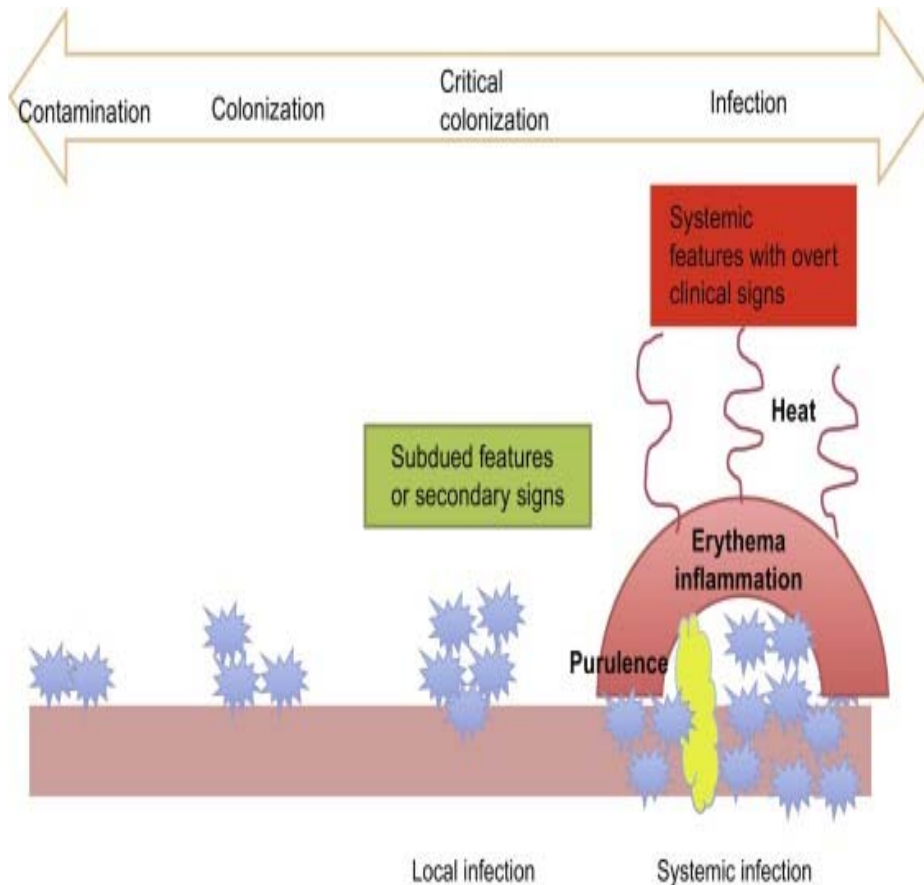
- ▶ Assessment
  - ▶ Patient
  - ▶ Wound specifics (pain, slough)
  - ▶ Identify modifiable risk factors for poor healing
- ▶ Objectives
  - ▶ Short and long term management/prevention
- ▶ Treatment
  - ▶ Underlying wound etiology
  - ▶ Modifiable factors
  - ▶ Education of resident/family
- ▶ Evaluation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

Early stage



- ▶ Because all pressure ulcers, like the skin, are colonized with bacteria, antibiotic therapy is not appropriate for a positive surface swab culture without signs and symptoms of infection.
- ▶ Non-intact skin is more likely to be colonized with pathogens.
- ▶ True infection of a pressure ulcer (cellulitis, osteomyelitis, sepsis) is a serious condition, generally requiring broad spectrum parenteral antibiotics and surgical debridement in an acute care facility.

# BACTERIAL LEVELS IN THE WOUND



## Contamination

*bacteria present on surface but no issues*

## Colonization

*bacteria attach to tissue and multiply*

## Infection

*bacteria invade healthy tissue and overwhelm immune defenses*

*Local-healing stalls and tissue damage*

*Spreading-problems close to wound*

*Systemic-systemic illness*

# ASSESSING FOR INFECTION

*The mnemonics “NERDS” and “STONES” used to differentiate between wounds which may respond to topical antimicrobials, and those requiring systemic antimicrobials*

*Sibbald RG, Woo K & Ayello EA. Increased bacterial burden and infection: The story of NERDS and STONES. Adv Skin Wound Care 2006; 19:447–461.*

<i>Superficial Infection</i>	<i>Deep Infection</i>
N: Non-healing wounds	S: Size - bigger
E: Exudating wounds	T: Temperature - increased
R: Red and bleeding granulation tissue	O: Os (probe to or exposed bone)
D: Debris on wound surface	N: New or satellite areas of breakdown
S: Smell	E: Exudate, edema, erythema
	S: Smell

Identifying Infection in Chronic Wounds: Young L

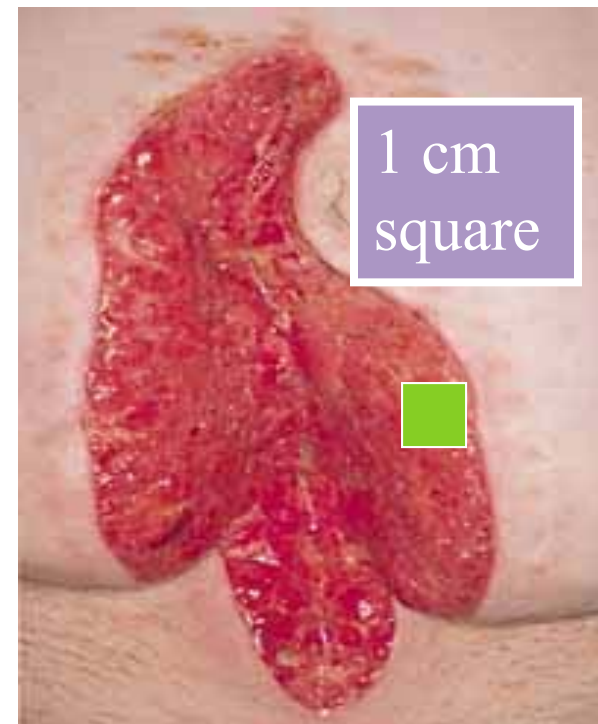
# SKIN, SOFT TISSUE AND MUCOSAL INFECTIONS

Criteria	Comments
<p>A. <u>Cellulitis/soft tissue/wound infection</u></p> <p>At least <b>one</b> of the following criteria is present</p> <ol style="list-style-type: none"><li>1. Pus present at a wound, skin, or soft tissue site</li><li>2. New or increasing presence of at least <b>four</b> of the following sign/symptom sub-criteria<ol style="list-style-type: none"><li>a) Heat at affected site</li><li>b) Redness at affected site</li><li>c) Swelling at affected site</li><li>d) Tenderness or pain at affected site</li><li>e) Serous drainage at affected site</li><li>f) <b>One</b> constitutional criteria</li></ol></li></ol>	<p>More than one resident with streptococcal skin infection from the same serogroup (e.g., A, B, C, G) in a LTCF may suggest an outbreak</p> <p>For wound infections related to surgical procedures: LTCF should use the CDC's NHSN surgical site infection criteria and report these infections back to the institution performing the original surgery</p> <p>Presence of organisms cultured from the surface (e.g., superficial swab culture) of a wound is not sufficient evidence that the wound is infected</p>

# SWAB CULTURE TECHNIQUES

## ▶ Levine technique

- ▶ Clean wound prior to culture
- ▶ Moisten swab with saline
- ▶ 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)

# WHAT ABOUT WOUND CLEANSING?



# WHICH WOUNDS NEED CLEANSING?

- ▶ “Dirty” wounds – wounds caused by bites, trauma with foreign objects or debris
- ▶ Infected wounds
- ▶ Debate over clean granulating wounds – post surgical wounds, leg ulcers, other chronic wounds



# AVOID ANTISEPTICS

- ▶ Povidone Iodine – (Betadine) – Use solution only – 1% or 10% is acceptable
- ▶ Hydrogen peroxide – damages healing wounds, do NOT use in deep wounds – no safe dilution
- ▶ Sodium hypochlorite – Dakin's solution – safe dilution is .025% (not .25% usually ordered)
- ▶ Acetic Acid – no safe dilution

# CHARACTERISTICS OF “SAFE” WOUND CLEANSERS

- ▶ pH balanced
- ▶ Non-cytotoxic
- ▶ Long shelf life



# CHARACTERISTICS OF IDEAL DRESSING

- ▶ Absorbs excessive wound fluid while maintaining a moist environment
- ▶ Protects the wound from further mechanical or caustic damage
- ▶ Prevents bacterial invasion or proliferation
- ▶ Conforms to the wound shape and eliminates dead space
- ▶ Debrides necrotic tissue
- ▶ Does not macerate the surrounding viable tissue

## CHARACTERISTICS OF IDEAL DRESSING CONT'D

- ▶ Achieves hemostasis and minimizes edema through compression
- ▶ Does not shed fibers or compounds that could cause a foreign body or hypersensitivity reaction
- ▶ Eliminates pain during and between dressing changes
- ▶ Minimizes dressing changes
- ▶ Is inexpensive, readily available, and has a long shelf life
- ▶ Is transparent in order to monitor wound appearance without disrupting dressing

# DOES **ALL** WOUND CARE NEED TO BE DONE WITH STERILE TECHNIQUE?



# 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*

# ***Sterile technique***

- Sterile is generally defined as meaning free from microorganisms.
- Involves strategies used in patient care to reduce exposure to microorganisms and maintain objects and areas as free from microorganisms as possible.
- Sterile technique involves meticulous hand washing, use of a sterile field, use of sterile gloves for application of a sterile dressing, and use of sterile instruments.
- Sterile technique is considered most appropriate in acute care hospital settings, for patients at high risk for infection, and for certain procedures such as sharp instrumental wound debridement.



# Clean Technique

- Clean means free of dirt, marks, or stains.
- Clean technique involves strategies used in patient care to 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.
- Clean technique involves 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.
- Clean technique is considered most appropriate for long-term care, home care, and some clinic settings; for patients who are not at high risk for infection; and for 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

Procedure Intervention	HH Indicated	PPE to be Used	Supplies Indicated	Instrumentation
Wound Cleaning	Yes	Clean exam gloves and PPE as appropriate	Normal saline or prepared sterile wound cleanser. Sterile supplies such as 4x4 or cotton applicators	Irrigation performed with sterile device while maintaining clean technique
Routine dressing changes; NO debridement	Yes	Clean exam gloves and PPE as appropriate	Sterile supplies using clean technique	Sterile supplies using clean technique
Dressing change with mechanical, chemical or enzymatic debridement	Yes	Clean exam gloves and PPE as appropriate	Sterile supplies using clean technique	Sterile supplies using clean technique
Dressing change with sharp, conservative bedside debridement	Yes	Sterile gloves and PPE as appropriate	Sterile supplies and sterile technique due to the potential for entering new, unaffected tissues	Sterile supplies and sterile technique

# POINTS TO REMEMBER



- ▶ Contamination of the wound is minimized by not touching it. Blotting excess fluid that pools in the wound and cleaning the periwound 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 coming into contact with the wound does not contact jars, bottles, tubes, bedside table or supplies to be kept for use at a later date.

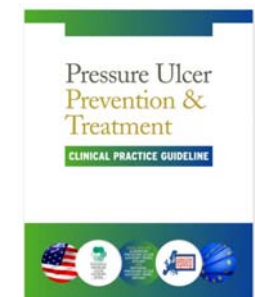
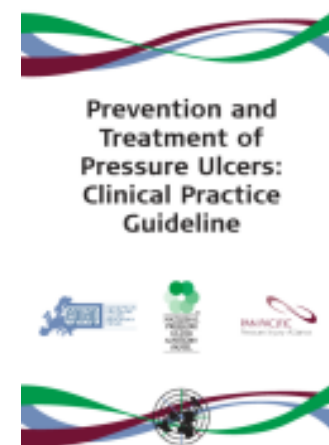


# REASSESSMENT

- ▶ Few dressings can take a wound from beginning to healed.
- ▶ Reassess wound and adjust dressing regimen as needed.
- ▶ Policy on wound reassessment.
- ▶ Standardize wound measurement techniques or have same person measure weekly.

# GUIDELINES FOR CARE

- ▶ AHRQ (formerly AHCPH) guidelines are outdated and archived
- ▶ WOCN Society has guidelines for pressure ulcers and lower extremity ulcers
- ▶ AMDA published in 2008 and reaffirmed in 2013
- ▶ 2014 NPUAP/EPUAP/PPPIA guideline



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7. [www.wocn.org](http://www.wocn.org) - Website for the WOCN Society; resource for guidelines
8. [www.amda.com](http://www.amda.com) - Website for the American Medical Directors Association, resource