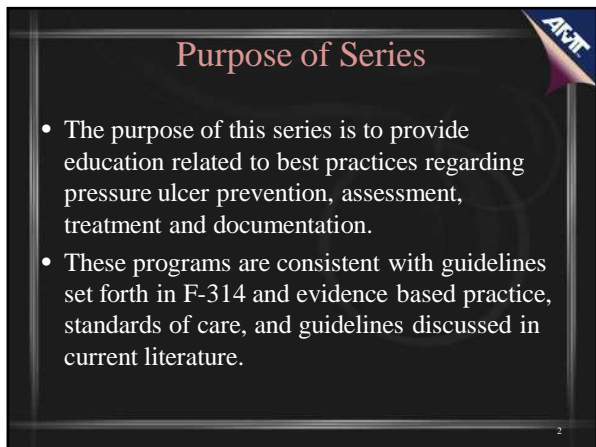


The Power of Pressure Ulcer Treatment

American Medical Technologies
Email: info@amtwoundcare.com

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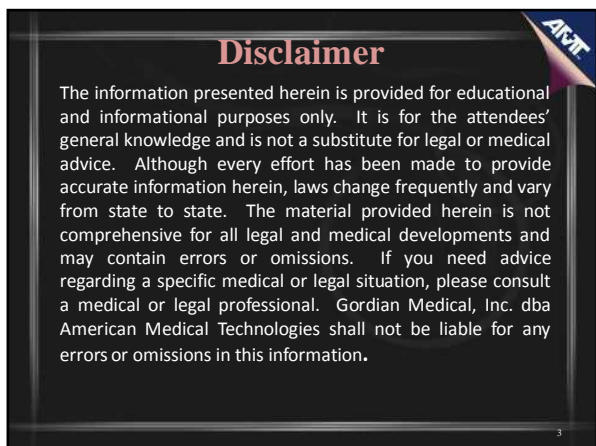


Purpose of Series

- The purpose of this series is to provide education related to best practices regarding pressure ulcer prevention, assessment, treatment and documentation.
- These programs are consistent with guidelines set forth in F-314 and evidence based practice, standards of care, and guidelines discussed in current literature.

2

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Disclaimer


The information presented herein is provided for educational and informational purposes only. It is for the attendees' general knowledge and is not a substitute for legal or medical advice. Although every effort has been made to provide accurate information herein, laws change frequently and vary from state to state. The material provided herein is not comprehensive for all legal and medical developments and may contain errors or omissions. If you need advice regarding a specific medical or legal situation, please consult a medical or legal professional. Gordian Medical, Inc. dba American Medical Technologies shall not be liable for any errors or omissions in this information.

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Objectives



- Verbalize the intent of F-314 in long-term care
- Discuss wound bed preparation for pressure ulcer treatment
- Describe treatment interventions for pressure ulcers that meet the standards of care and/or best practices criteria
- Recognize staff education needs related to pressure ulcers



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What is the F314?

- A guide to ensure that all nursing homes are held to the same standards in the survey process regarding pressure ulcer prevention and treatment
- Medicare wants providers (nursing homes) to be aware of the current standards and PrU prevention and care
- Use it to create an effective Wound Care and Risk Management program
- Surveyors use it to assess a facility's risk assessment and wound care protocols and procedures
- An outline for best Wound Care practice
- It should be used as a tool




5

F314 Interpretative Guidelines

Topics covered in the F314


- OVERVIEW
- PREVENTION
- ASSESSMENT
 - Subsections include:
 - Risk Factors
 - Pressure Points and Tissue Tolerance
 - Under-Nutrition and Hydration Deficits
 - Moisture and Its Impact
- INTERVENTIONS
- MONITORING



6

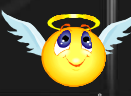
CMS: Avoidable Pressure Ulcers

- Resident developed a pressure ulcer and the facility DID NOT DO one or more of the following:
 - Evaluate the resident’s clinical condition and pressure ulcer risk factors
 - Define and implement interventions that are consistent with resident needs, goals, and recognized standards of practice
 - Monitor and evaluate the impact of the interventions
 - Revise the interventions if appropriate



CMS: Unavoidable Pressure Ulcers

- Resident developed a pressure ulcer even though the facility:
 - Evaluated the resident’s clinical condition and risk factors
 - Defined and implemented interventions that are consistent with resident needs, goals, and recognized standards of practice
 - Monitored and evaluated the impact of the interventions
 - Revised interventions as appropriate



Physical Factors that May Influence Pressure Ulcer Treatment Choices

- Location
- Status of ulcer bed
- Size, stage, depth
- Exudate
- Necrotic tissue
- Presence or absence of granulation tissue or epithelialization
- Pain
- Periwound condition
 - Erythema, edema, induration
 - Maceration
 - Dryness or fragility
 - Shearing, friction or both

Pressure Ulcers in the Long-Term Care Setting; Clinical Practice Guideline; AMDA 2008

F309: §483.25 Quality of Care

- Each resident must receive and the facility must provide the necessary care and services to attain or maintain the highest practicable physical, mental, and psychosocial well-being, in accordance with the comprehensive assessment and plan of care.
- Under this guideline are the definitions for specific wound etiologies other than PrUs
 - Arterial
 - Diabetic neuropathic ulcer
 - Venous insufficiency ulcer

F314 - INTERVENTIONS

- Comprehensive assessment should provide the basis for defining approaches to address residents at risk of developing or already having a pressure ulcer
- A determination that a resident is at high risk to develop a pressure ulcer has significant implications for preventive and treatment strategies, but does not by itself indicate that development of a pressure ulcer was unavoidable.
- Effective prevention and treatment are based upon consistently providing routine and individualized interventions.

CMS Manual System Department of Health & Human Services (DHHS) Pub. 100-07 State Operations Provider Certification Centers for Medicare & Medicaid Services (CMS), Transmittal 5 Date: November 19, 2004

F314 Interpretative Guidelines
483.25(c)

Based upon the assessment and the resident's clinical condition, choices and identified needs, basic or routine care should include interventions to:

- Redistribute pressure (such as repositioning, protecting heels, etc)
- Minimize exposure to moisture and keep skin clean, especially of fecal contamination;
- Provide appropriate pressure redistributing, support surfaces;
- Provide non-irritating surfaces;
- Maintain or improve nutrition and hydration status, where feasible.

CMS Manual System Department of Health & Human Services (DHHS) Pub. 100-07 State Operations Provider Certification Centers for Medicare & Medicaid Services (CMS), Transmittal 5 Date: November 19, 2004

F314 Interpretative Guidelines

483.25(c)

- The facility should be aware that the resident's drug regimen may worsen risk factors for development of pressure ulcers or for non-healing pressure ulcers
- For example, drugs causing lethargy or anorexia or creating/increasing confusion should be identified and addressed

CMS Manual System Department of Health & Human Services (DHHS) Pub. 100-07 State Operations Provider Certification Centers for Medicare & Medicaid Services (CMS); Transmittal 5 Date: November 19, 2004 13

F314 & Repositioning

- Repositioning is a common, effective intervention
- Repositioning is critical for a resident who is immobile or dependent upon staff for repositioning
- Assessment of a resident's skin integrity after pressure has been reduced or redistributed should guide the development and implementation of repositioning plans
- Such plans should be addressed in the comprehensive plan of care consistent with the resident's need and goals.
- The care plan for a resident at risk of friction or shearing during repositioning may require the use of lifting devices for repositioning
- Positioning the resident on an existing pressure ulcer should be avoided since it puts additional pressure on tissue that is already compromised and may impede healing

CMS Manual System Department of Health & Human Services (DHHS) Pub. 100-07 State Operations Provider Certification Centers for Medicare & Medicaid Services (CMS); Transmittal 5 Date: November 19, 2004

F314 & Support Surfaces and Pressure Redistribution

- Support surfaces should be chosen by matching a device's potential therapeutic benefit with the resident's specific situation
 - Multiple ulcers
 - Limited turning surfaces
 - Ability to maintain position
- Effectiveness of pressure redistribution devices is based on their potential to address
 - Individual resident's risk
 - Resident's response to the product
 - The characteristics and condition of the product
- Examples of these surfaces or devices include:
 - 4-inch convoluted foam pads
 - Gel pads
 - Air fluidized beds
 - Low loss air mattresses

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F314 - MONITORING

- At least daily, staff should remain alert to potential changes in the skin condition and should evaluate and document identified changes
- For example, a resident's complaint about pain or burning/itching at a site where there has been pressure or a nursing assistant's observation during the resident's bath that there is a change in skin condition should be reported so that the resident may be evaluated further

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ASSESSMENT AND TREATMENT OF PRESSURE ULCER(S)

- It is important that each existing pressure ulcer be identified
 - Whether present on admission or developed after admission
- Factors that influenced the PrU development
- Potential for development of additional ulcers
- Factors causing deterioration of the pressure ulcer(s) be assessed and addressed (Prevention!!!)
- Any new pressure ulcer suggests a need to reevaluate the adequacy of the plan for preventing pressure ulcers

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F314 - TYPES OF ULCERS

- At the time of the assessment, clinicians should document the clinical basis for any determination that an ulcer is not pressure related, especially if the injury/ulcer has characteristics consistent with a pressure ulcer, but is determined not to be one
- According to CMS clinician means:
 - Physicians
 - Advance practice nurses
 - Physician assistants
 - Certified wound care specialists
- Refer back to F-309 for CMS description of the most frequently encountered types of wound other than PrUs...they are asking for the etiology of the wound/s (arterial, venous, diabetic neuropathic)
- Also provide the:
 - Location
 - Shape
 - Ulcer edges and wound bed
 - Condition of surrounding tissues
- All of which factor into your treatment plan

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F314- DRESSINGS AND TREATMENTS

- A facility should be able to show that its treatment protocols are based upon current standards of practice
- Are in accord with the facility's policies and procedures
- And these policies and procedures are developed with the medical director's review and approval

CMS Manual System Department of Health & Human Services (DHHS) Pub. 100-07 State Operations Provider Certification Centers for Medicare & Medicaid Services (CMS); Transmittal 5 Date: November 19, 2004

F314 - Clean vs Sterile Technique

- Present literature suggests that pressure ulcer dressing protocols may use clean technique rather than sterile
- Appropriate sterile technique may be needed for those wounds that recently have been surgically debrided or repaired

D.I.M.E. Principles of Wound Bed Preparation

	D ebri Non- viable or deficient	I nfection or inflammation	M oisture imbalance	E dge of wound non advancing or undermined
Impairment	Non-viable tissue-defective matrix & cell debris	High bacterial counts or prolonged inflammation	Desiccation or excess fluid	Non-migrating keratinocytes Non-responsive wound cells
Intervention	↓ Debridement	↓ Antimicrobials	↓ Dressings Compression	↓ Biological agents Adjunct Therapies Debridement
Outcomes	↓ Restore wound base & ECM proteins	↓ Low bacterial counts & controlled inflammation	↓ Restore cell migration Avoid maceration	↓ Stimulate keratinocyte migration

D-I-M-E Framework

- Aims to optimize the wound bed by:
 - reducing edema and exudate
 - reducing the bacterial burden
 - correcting the abnormalities contributing to impaired healing

*European Wound Management Association (EWMA). Position Document: *Wound Bed Preparation in Practice*. London: MEP Ltd, 2004.
*Sibbald GR, Orsted H, Schultz GS, et al; Preparing the Wound Bed 2003: Focus on Infection and Inflammation; *Ostomy Wound Management*, Nov 2003, Vol 49, Issue 11 p24-49

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Goal of D-I-M-E

- Facilitate the normal endogenous process of wound healing
- For instance:
 - Debridement can be used as an intervention for tissue management, but can also impact on inflammation and infection control
 - Wound edge migration

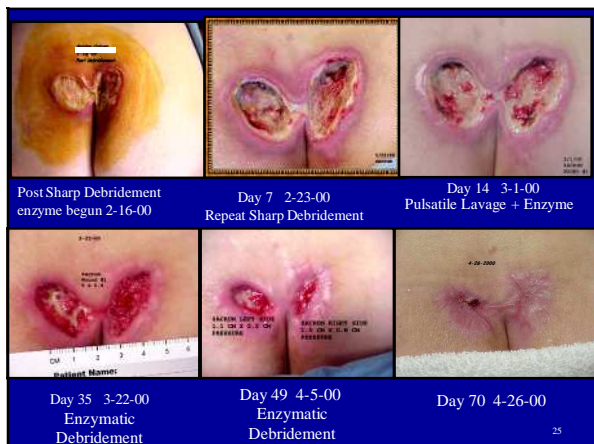
*European Wound Management Association (EWMA). Position Document: *Wound Bed Preparation in Practice*. London: MEP Ltd, 2004.
*Sibbald GR, Orsted H, Schultz GS, et al; Preparing the Wound Bed 2003: Focus on Infection and Inflammation; *Ostomy Wound Management*, Nov 2003, Vol 49, Issue 11 p24-49

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Types of Debridement

- Types of debridement include:
 - Autolytic
 - Enzymatic
 - Mechanical
 - Sharp
 - Surgical
 - Biodebridement (maggots)

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NPUAP: February 2007

- “The National Pressure Ulcer Advisory Panel has redefined the definition of a pressure ulcer and the stages of pressure ulcers
- Suspected DTI
- Stage I
- Stage II
- Stage III
- Stage IV
- Unstageable

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Dressing and Treatment Caveats

Thomas, JAMDA Oct 2006

- Stage III, IV ulcers should be covered
- Determination of the need for a dressing for a Stage I, II ulcer is based upon individual practitioner’s clinical judgment and facility protocols based upon current clinical standards of practice
- Current literature does not indicate significant advantages of any single specific product
- Current literature suggests that PrU dressing protocols may use clean technique rather than sterile
- Appropriate sterile technique may be needed for those wounds that have recently been surgically debrided or repaired

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Debridement Caveats

Thomas, JAMDA Oct 2006

- Variety of methods available
 - Mechanical, sharp, surgical, enzymatic, autolytic
 - Must be appropriate for the resident and clinical wound presentation
- Stable, dry, intact, and adherent eschar on the foot/heel should not be debrided unless signs/symptoms of local infection or instability
- Wet-to-dry dressings (a form of debridement) or irrigations may be appropriate in *limited* circumstances, but repeated use may damage healthy granulation tissue and may lead to excessive bleeding and increased pain
- A facility should be able to show that its treatment protocols are based upon current standards of practice and are in accord with the facility's policies and procedures as developed with the medical director's review and approval

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Resident Right's of Refusal: Resident Choice

- Resident has the right to refuse therapy or to be non-compliant
- Facility is expected to address the resident's concerns
- A violation of resident rights is referenced in F154 & F155
- Offer relevant alternatives
- Mere refusal or noncooperation is not an excuse for worsening of a pressure ulcer
- In general, the documentation should include the resident's right to refuse therapy
- Informed refusal should be documented
- Alternative treatment/s should be discussed with the resident

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Treatment Pearls for DTI



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Deep Tissue Injury (DTI)



- Tissue injury that appears as dark discoloration, deep bruising, hematoma
- Borders are irregular and not well demarcated
- Typically acute formation
 - Long OR times
 - Falls
 - Splints
 - Single episode of pressure
- Damage to deeper structures has already occurred
- Skin may still be intact because of its higher resistance to hypoxia
- Herald sign of an impending stage III or IV

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Progression of DTI

- Eschar formation – common at heels
- Necrosis and formation of full thickness wound
- Infection and abscess formation – usually requires surgical intervention
- DTI have potential for rapid deterioration

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DTI Progression



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Management / Treatment

- Complete and immediate pressure relief
- No massage to affected area
- Protect from other factors
 - i.e., incontinence, friction, shear
- May use dry dressing if desired but no topical until “declared”
- Monitor closely for deterioration
- Nutritional support

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What is different?

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The Bacterial Burden


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Classic Signs/Symptoms of Infection

- Dolor (pain)
- Rubor (erythema)
- Calor (warmth)
- Edema/swelling
- Purulence
- Fever

Acute Wound Infection

Chronic Wound Infection



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Secondary Signs/Symptoms of Infection

- Delayed healing
- Change in wound bed color
- Friable granulation tissue
- Absent/abnormal granulation tissue
- Abnormal color
- Serous drainage
- Pain at wound site

Critically colonized

Bacterial burden

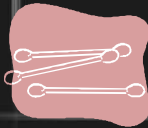

Local wound infection



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Wound Culture

- When is it appropriate?
 - If resident exhibits signs and symptoms of infection → obtain culture
 - When wound extends to bone or fails to heal, assess for signs of osteomyelitis
 - Grayson et al, demonstrated that a simple clinical test of probing to bone was predictive of osteomyelitis with a sensitivity of 66%, specificity of 85%, positive predictive value of 89%, and negative predictive value of 56%.



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Wound Culture

- Proper technique
 - Always clean the wound first
 - Levine technique
 - Replace swab in medium (send to lab)
 - Recommend calcium alginate or rayon culture, as these are biodegradable, in lieu of cotton tip

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Antimicrobial Therapy

Adapted from Sibbald et al 2001

- Critical Colonization
 - Increasing wound size
 - Increasing exudate
 - Friability, bright red
 - Increased odor
- Deep Tissue Infection
 - Erythema, edema > 2 cm
 - Probes to bone
 - Pain
 - Tenderness
 - New areas of breakdown

→ Topical
(Immunocompromised pt may Require systemic)

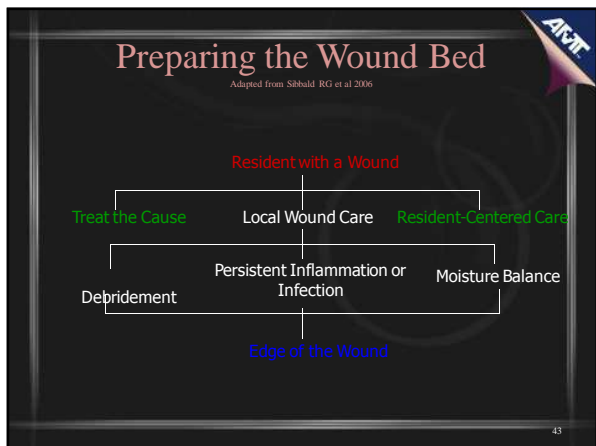
→ Systemic
+/- Topical

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Antimicrobial Therapy

- Systemic antibiotics are not required for PrUs with only clinical signs of local infection.
- A period of 2 weeks is a reasonable trial with topical agents before considering systemic treatments or re-examining the treatment of the cause/ability of the ulcer to heal.

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Wound Care Products

- The first recorded use of an occlusive wound dressing → 1615 BC.
- Wounds were left open to the air to form a scab until Winter advocated the concept of moist wound healing in 1962, based of a pig model.
- In 1963, in a human experiment, Hinman and Maibach showed that occlusive dressings accelerate healing.

Wound Care Products

- Over 6000+ products available
- Consider the following:
 - wound related factors (etiology, severity, environment, size, anatomic location, infection)
 - resident related factors (vascular status, medications, nutritional status)
 - dressing related factors (availability, durability, characteristics, “cost”)



Dressing Considerations

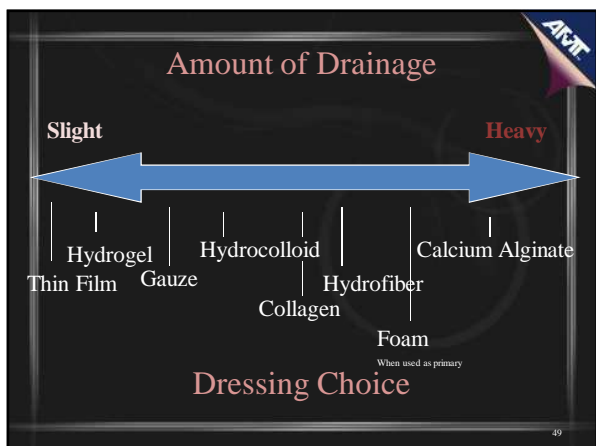
- What do you need the dressing to do?
 - Create or maintain moist wound bed
 - Provide for non traumatic removal
 - Create a bacterial barrier
 - Protect healthy cells
- Consider
 - Ulcer location
 - Cost and frequency of change
 - Is the dressing user-friendly

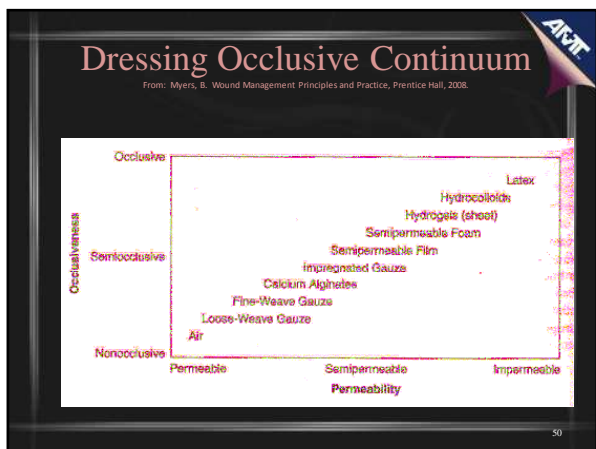
Dressing Considerations

Adapted from: Baranoski, 1999.

- Minimize trauma to wound bed
- Eliminate dead space
- Assess and manage exudate
- Support the body's tissue defense system
- Use non-toxic wound cleansers
- Remove infection, debris, necrotic tissue
- Environment maintenance- thermal insulation and moist wound bed
- Surrounding tissue- protect from injury and bacteria

Wound Dressing Selection for PrUs





A Few Words About Gauze...

- Moisture retentive dressings vs. Gauze
 - Studies have demonstrated that bacteria can pass through SIXTY-FOUR layers of dry gauze
 - The infection rate with gauze dressings was 3X higher than with moisture retentive dressings
 - Gauze dressings will NOT prevent bacterial contamination
 - Think about a wound's location...other methods for bacterial contamination?
- Gauze dressing changes released greatest bacteria in colonized wounds
 - Decline of airborne bacteria, almost 30 minutes
 - Removal of moisture retentive... almost no bacteria released

Dressings & Thermoregulation

- **Normothermia**
 - 37°C is optimal for cellular functioning
- **Hypothermia**
 - causes vasoconstriction
 - decreases cellular activity
 - decreases collagen deposition
 - weakens host resistance to wound infection
- Most chronic wounds are hypothermic

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Dressings & Thermoregulation

- **Semi-occlusive dressings** = 33-35°C
- **Gauze dressings** = 25-27°C
- 4-6 hours for metabolic function to return to 'optimal levels' after each dressing change
- With dressing changes, wound bed temperatures have been measured at 21 degrees C
- With TID dressings (with gauze), temperature is decreased for 12-18 hours of the day

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Real Cost of Wound Care

- The price of the dressing
- The labor cost of changing the dressing
- Ancillary supplies and services used in changing the dressing
- Cost of the duration of care

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Wound Care Team

- Recommendations from AMDA
 - Interdisciplinary wound care team (IDT)
 - Team may consist of
 - Designated wound care nurse
 - Nursing assistant
 - Dietitian
 - Physical or occupational therapist
 - Practitioner (MD, DO, NP, PA)
 - At least one team member should have training in wound care
 - The team should have access to a wound care specialist



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Ensure Quality Education & Communication

Education for the prevention of pressure ulcers should be:

- Structured, organized, and comprehensive and directed at **all levels of health care providers**
- Should include information on the following items:
 - The etiology and risk factors predisposing to pressure ulcer development
 - The Braden Scale & the MDS & their relevance to planning care
 - Skin assessment
 - Staging of pressure ulcers
 - Selection and/or use of support surfaces
 - Development & implementation of an individualized skin care program
 - Demonstration of positioning/transferring techniques to decrease risk of tissue breakdown
 - Instruction on accurate documentation of pertinent data


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University of Iowa Pressure Ulcer Prevention and Treatment Algorithm

Pressure Ulcer Resources Recommended to be Used by Surveyors for LTC

- **University of Iowa: Evidence Based Protocols – Prevention and Treatment of Pressure Ulcers**
- **AHCPR Guidelines for Prevention of Pressure Ulcers**
 - U.S. Department of Health and Human Services, Agency for Health Care Research and Quality. (1992). *Pressure ulcers in adults: Prediction and prevention*
 - (AHCPR Publication No. 92-0047), Rockville, MD: Author.
- **AMDA Clinical Practice Guidelines for Pressure Ulcers (www.amda.com or 800.876.2632 to order)**




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Pressure Ulcer Resources Recommended to be Used by Surveyors for LTC

- **National Pressure Ulcer Advisory Panel**
 - Pressure Ulcer Prevention: A Competency-based Curriculum
 - Pressure Ulcer Treatment: A Competency-based Curriculum
 - PUSH tool
 - Numerous other resources

<http://npuap.org/resources.htm>





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Wound Care Resources Recommended to be Used by Surveyors for LTC

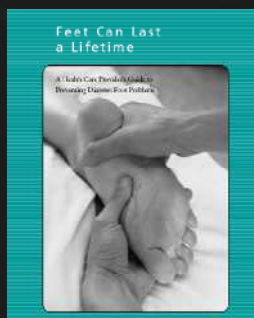
WOCN Guidelines

- Guidelines for Management of Wounds in residents with LEAD (arterial)
- Guidelines for Management of Wounds in residents with LEND (neuropathic)
- Guidelines for Management of Wounds in residents with LEVD (venous)
- Guidelines for the Prevention & Management of Pressure Ulcers




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Feet Can Last a Lifetime



www.ndep.nih.gov/diabetes/pubs/Feet_HCGuide.pdf



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Surveyor Webinar for Survey Process
F314 & F309

- <http://media1.wi.gov/DHFS/Viewer/Viewers/Viewer320TL.aspx?mode=Default&peid=4a5ff257-05a2-4ccd-a4f9-70c3ba9bd079&pid=43fa99e9-d4d7-4326-8b97-c44bdec69d31&playerType=WM7#>

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Valuable Resources/Tools

- www.primaris.org
 - Click on nursing home; select pressure ulcers; then select show tools
 - Valuable forms and tools for all aspects of PrU care and all team members involved in that care
- IADIT@medbiopub.com
 - Incontinence associated dermatitis intervention tool

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Questions?

For information about this or other educational activities, please contact info@amtoundcare.com

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