Best Practice Recommendations:

Managing Wound Exudate Using a Novel Silicone Foam That Matches Wound Depth

Supported by an educational grant from Coloplast Corp.

Faculty

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Faculty Disclosures

- **Janice M. Beitz, PhD, RN, CS, CNOR, CWOCN-AP, CRNP, ANEF, FNAP, WOCNF, FAAN** has nothing to disclose in relation to this activity
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Disclosures

- The faculty have been informed of their responsibility to disclose to the audience if they will be discussing off-label or investigational use(s) of drugs, products, and/or devices (any use not approved by the U.S. Food and Drug Administration)
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  - This activity has been independently reviewed for balance

- This continuing medical education activity may include device or medicine brand names for participant clarity purposes only; no product promotions or recommendations should be inferred

Learning Objectives

- Describe the challenges in managing wound depth in the acute care setting
- Examine the science, evidence, clinical application, and best-practice use of a novel silicone foam dressing
- Differentiate a silicone foam dressing that matches the shape and depth of the wound from other foam dressings
- Assess efficiencies with leveraging a silicone foam dressing that manages depth in the acute care setting, such as product utilization, nursing time, and standardized care
- Navigate illustrative case studies utilizing a novel silicone dressing for the management of a variety of wounds with depth in the acute care setting

Q&A

Submit your questions anytime via the question box

Wound Depth, Wound Exudate: Critical Issues

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Professor and WOCNEP Director
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Wounds: A Global Issue

- 1%-2% of the world population will experience a chronic wound at some time in their lives
  - Represents 123 million – 246 million people worldwide; 15 million new each year
- Wounds are a major public health issue for the entire planet

Aurealis Therapeutics. Updated 2025. Accessed Feb. 23, 2025. aurealistherapeutics.com/chronic-wounds/#chronic-wounds.

Why Care about Wound Depth?

- Wound depth directly affects the severity of the injury
  - Potential complications, like infection, increase with depth
  - Wound depth alters treatment plan
    - Dimensions and location matter
  - Deeper wounds can take longer to heal
    - Usually have more tissue damage (ie, nerves, muscle, ligaments, blood vessels, bones)

Dinah F, Adhikari A. *Ann R Coll Surg Engl*. 2006;88(1):33-36. Richlen B. Wound Care Education Institute. Published 2020. Accessed Feb 23, 2025. blog.wcei.net/your-essential-guide-to-wound-packing-dead-space.

Wounds with Depth

- Traditionally “filled in” (packing or dressing): WHY?
- Well established practice, though not necessarily evidence-based in its entirety

- Benefit of Packing or Filling Wound
  - Hemostasis: Control bleeding
  - Debridement: Can remove dead or damaged tissue
    - Ideally GENTLY; the nature of the dressing matters
  - Protection: Barrier between wound and outside environment
  - Pain management: Provides protection layer for nerve endings

Dinah F, Adhikari A. *Ann R Coll Surg Engl*. 2006;88(1):33-36. Richlen B. Wound Care Education Institute. Published 2020. Accessed Feb 23, 2025. blog.wcei.net/your-essential-guide-to-wound-packing-dead-space.

Benefits of Wound Packing in Managing Exudate

Promotes skin integrity by

- Avoiding maceration of wound bed (moist, but not wet, wound bed is the goal)
- Preventing excess moisture-associated skin damage (MASD)
- Protecting adjacent bony prominences with padding
- Reducing potential for abscess formation (prevent wound from closing over prematurely; facilitate healing in deeper parts of the wound before the wound surface)

MASD = moisture-associated skin damage.

Gefen A, Santamaria N. *Wounds International*. 2021;12(2):20-26. Hotaling PB, Black JM. *Wounds International*. 2022;8(1):18-20. O'Brien J, et al. *Wound Practice and Research*. 2024;32(1):25-33. Richlen B. Wound Care Education Institute. Published 2020. Accessed Feb 23, 2025. blog.wcei.net/your-essential-guide-to-wound-packing-dead-space.

Managing Wound Exudate: Depends on Amount of Exudate

- Many available options
  - Alginates, hydrocolloids, foams, hydrofibers, even NPWT
- Want to approximate wound edges successfully from bottom up
- Dressing must **contact wound bed** to absorb wound exudate
- Clinical judgment matters; a clinician must understand
  - The intended purpose of the dressing selected
  - If the dressing is appropriate for wound depth and amount of exudate

NPWT = negative pressure wound therapy.

Gefen A, Santamaria N. *Wounds International*. 2021;12(2):20-26. Hotaling PB, Black JM. *Wounds International*. 2022;8(1):18-20. Richlen B. Wound Care Education Institute. Published 2020. Accessed Feb 23, 2025. blog.wcei.net/your-essential-guide-to-wound-packing-dead-space.

Emerging Science on Managing Wound Depth, Exudate

Traditional practice of packing wounds is being studied for evidence level

- Mohamedahmed, et al. studied packing vs non-packing of pilonidal sinus cavities (PSCs) after incision and drainage (I&D); King, et al. commented on the study
  - Found only low-quality, low-precision studies on whether packing PSCs lowered the infection rate (stay tuned)
  - More information is available to guide best practice
  - Innovative technology with smart dressings: Fill wound *and* absorb exudate
  - Can be used for intended purpose(s) and be cost-effective
  - Challenges remain in managing wound depth and exudate in acute care settings

PSC = pilonidal sinus cavity; I&D = incision and drainage.

King A, et al. *Br J Community Nurs*. 2024;29(3):S26-S30. Mohamedahmed A, et al. *Langenbecks Arch Surg*. 2021;406(4):981-991.

What's the Science?

Elizabeth Faust, MSN, MBA, ANP-BC, CSWS, CWOCN-AP
Owner, Lizzie Wounds, LLC (PA)

Poll Question

What percentage of the wounds that you treat in the acute care setting are **less than** 2cm depth?

Overview of the Novel Foam

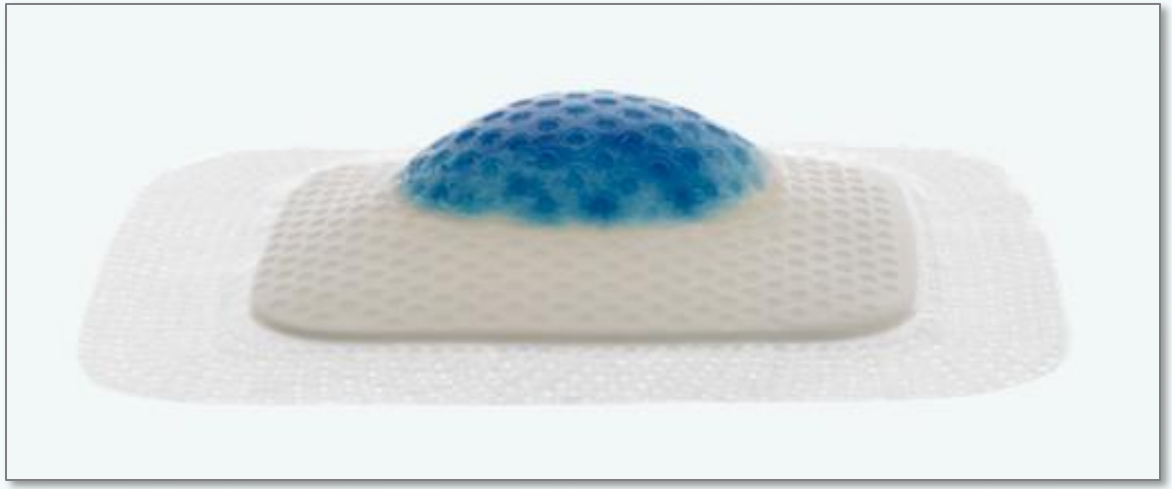
Bordered silicone foam dressing for pressure injury (PI) prevention **and** wound treatment

- Matches shape, depth of wound bed up to 2cm deep
- Vapor-permeable top film is bacteria and waterproof
  - Tissue layer
  - Super absorber
  - Absorbent polyurethane foam
  - Perforated silicone adhesive
- Indications
  - Low- to highly-exuding wounds
  - Prevention of post-operative blistering
  - Prophylactic therapy to prevent PIs, skin damage

PI = pressure injury.

Pre-Clinical Evidence

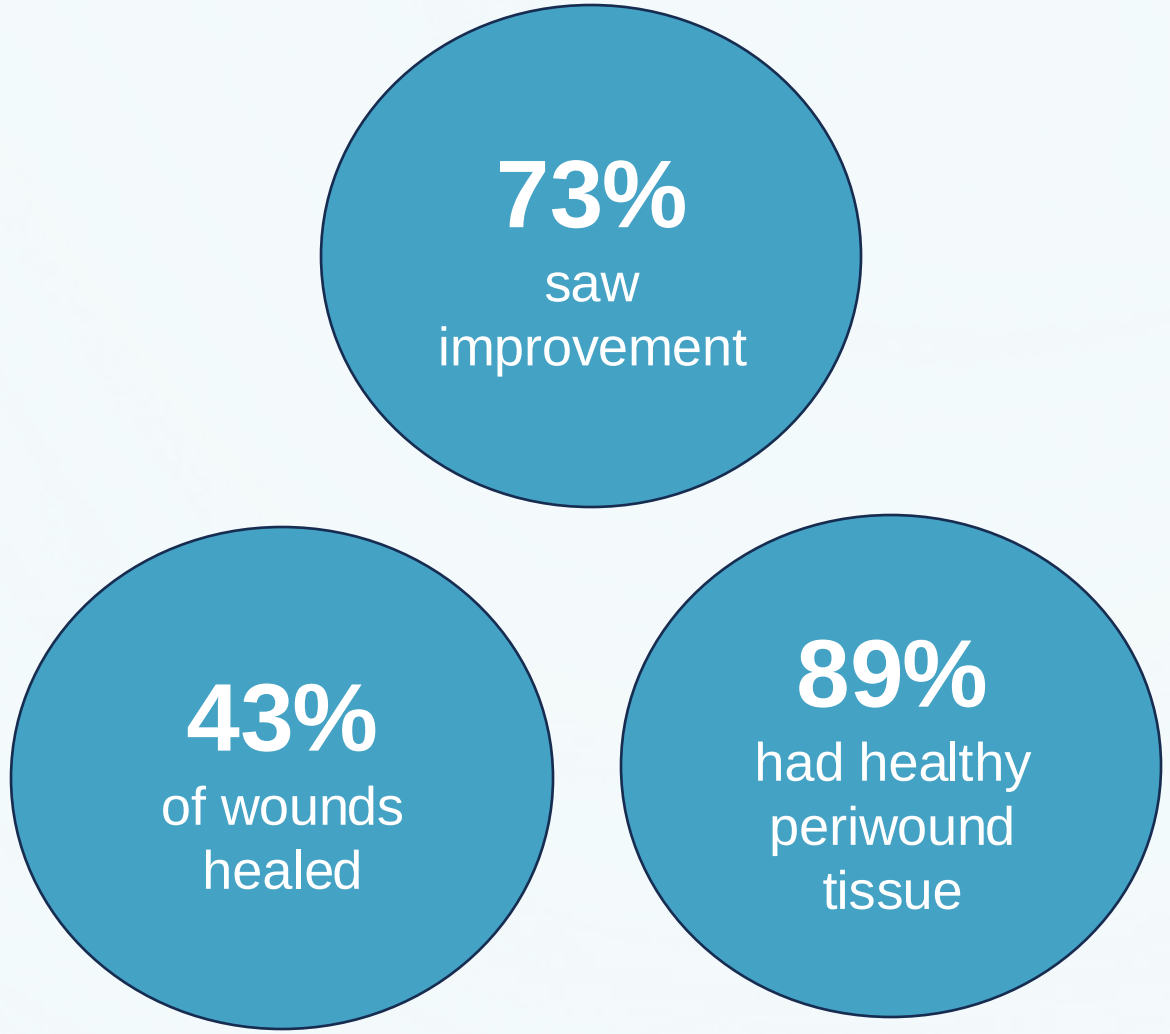
- Key parameters measured
  - Pressure redistribution
  - Static and dynamic friction
  - Peel adhesion
  - Waterproof
- Wound treatment key parameters
  - Fluid handling
  - Retention
  - Relative swelling rise



Anders C, Ayoub N. "*A new silicone foam dressing fit for pressure injury prevention and wound treatment with a strong in vitro performance*." SAWC Spring 2024 poster #LR-048.

VIPES Study

- Study evaluated both chronic and acute wounds
- Looking at a real-world experience
- The VIPES results highlight that this novel foam supported the healing of complex wounds by effectively managing the dead space between the dressing and the wound bed



Colboc H, et al. *J Wound Care.* 2024;33(8):542-553.

Clinical Evidence: Randomized Controlled Trial in the UK

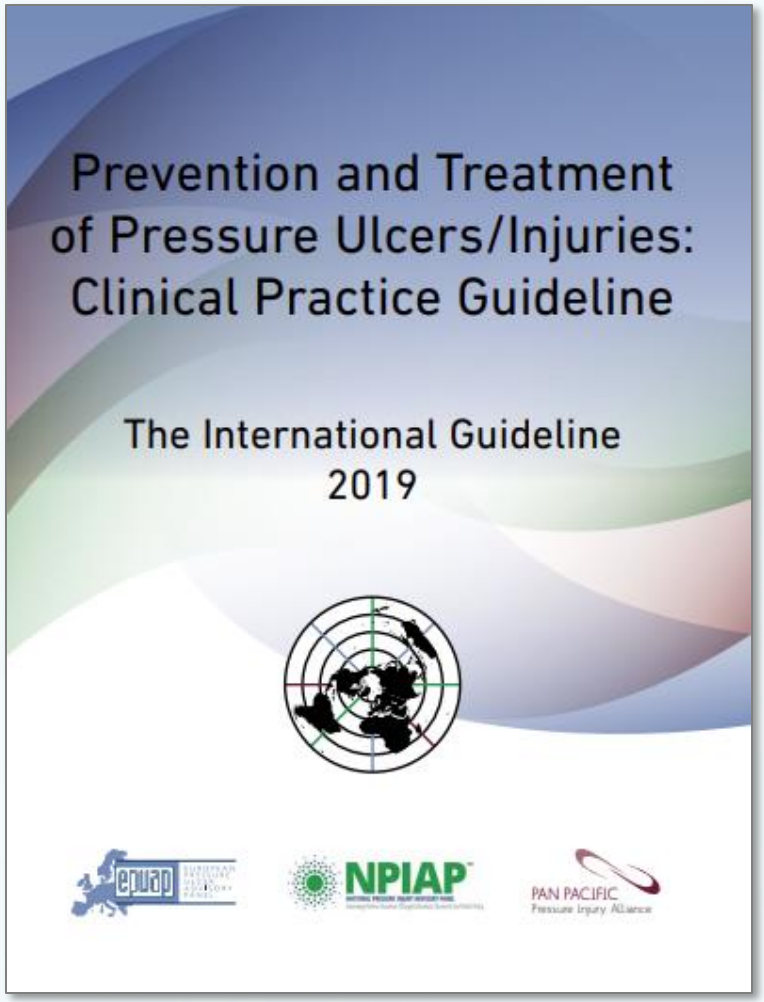
- RCT comparing a silver hydrofiber in combination with a silicone foam bordered dressing to Biatain® Silicone Fit dressing
- 102 patients over 4 wks
- 2 endpoints
  - Wound area reduction
  - Total treatment costs

- 54.3% reduction in wound area vs 43%
- 72% wound depth reduction vs 60.7%

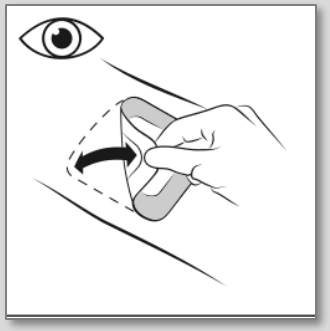
33% cost reduction

Voegeli D, et al. *Int Wound J*. 2024;21(12):e70074.

Pressure Injury Prevention



For PI prevention only



- As part of PI prevention, skin can be inspected by gently lifting part of the dressing
- After inspection, reapply dressing, and ensure an even, smooth fit to the skin

National Pressure Injury Advisory Panel, European Pressure Ulcer Advisory Panel, Pan Pacific Pressure Injury Alliance. (2019). *Prevention and Treatment of Pressure Ulcers/Injuries: Clinical Practice Guideline. The International Guideline*. 3rd ed. EPUAP/NPIAP/PPPIA; 2019.

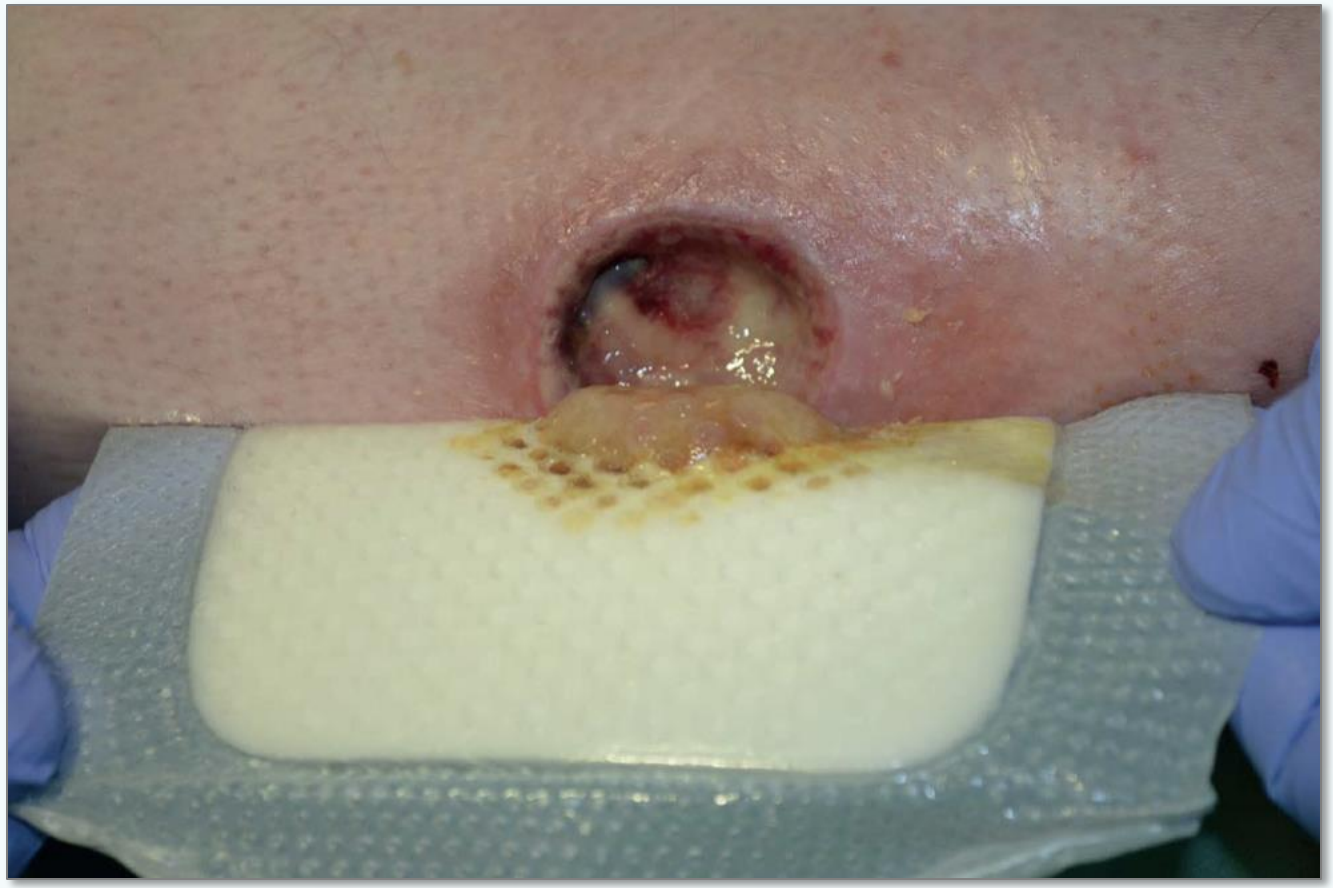
Clinical Applications

- Open wounds
  - Partial-thickness
  - Full-thickness (up to 2 cm)
- Intact Skin: Prevention
- Improved formularies
  - PI prevention and treatment
  - Shelf space

National Pressure Injury Advisory Panel, European Pressure Ulcer Advisory Panel, Pan Pacific Pressure Injury Alliance. (2019). *Prevention and Treatment of Pressure Ulcers/Injuries: Clinical Practice Guideline. The International Guideline*. 3rd ed. EPUAP/NPIAP/PPPIA; 2019.

Best Practice Use

- Varied wound characteristics
- Frequency of reassessment
- Adherence
- Cost-effectiveness
- Training and education



Distinguishing Between Foam Dressings

Christina Richardson, MSN, APRN, FNP-BC, CWON
Nurse Practitioner, Wound Care Center
Northfield Hospital and Clinics
Northfield, MN

Poll Question

What foam dressings do you use in the acute care setting?

1. Mepilex® absorbent foam dressing
2. Allevyn™ silicone adhesive foam dressing
3. Biatain® bordered silicone foam dressing
4. Optifoam® absorbent polyurethane foam dressing
5. OWM
6. Other

All Foams Are Created Equal

True or **FALSE**

- Why would we choose a foam that matches wound depth?
- Why would we choose a foam that helps manage exudate pooling?

Ease of Use on Inpatient Side

- Orders are, at times, hard to understand when you do not have the additional education
- Ease of process/protocol until can be evaluated by a WOCN/wound clinician
- Easy to educate nurses on utilization of 1 product
- Cost-effectiveness
- Effective against pressure ulcer prevention: reduced shear/friction
  - Can be removed/reapplied up to 5 times
  - Bordered silicone foam dressing moves more easily against surfaces

National Pressure Injury Advisory Panel, European Pressure Ulcer Advisory Panel, Pan Pacific Pressure Injury Alliance. (2019). *Prevention and Treatment of Pressure Ulcers/Injuries: Clinical Practice Guideline. The International Guideline*. 3rd ed. EPUAP/NPIAP/PPPIA; 2019.

Managing Maceration and Infection

- Biofilm growth from unmanaged exudate
- Higher risk of infection critical colonization from unmanaged exudate
- Stalled wounds with ineffective treatment

Shutterstock

Greenstein E, et al. *Wound Manag Prev*. 2022;68(11):12-14.

Case Study 1: Venous Leg Ulcer

- 84y Female patient with chronic wound to left medial lower extremity
  - Arterial, venous, lymphedema
  - Non-diabetic, HTN, osteoarthritis
  - Warfarin, clopidogrel, prednisone
  - Venous work first by Vascular
  - Arterial work (watched/waited)
  - Large amount of drainage
  - Bi-layered skin substitute applications outpatient
  - Lymphedema pumps/self-fastening wrap
  - Edema varied, but largely controlled
    - Largely compliant at home with care

HTN = hypertension.

Case Study 1: Venous Leg Ulcer

- 84y Female patient with chronic wound to left medial lower extremity after application of bordered silicone foam dressing
- Improved periwound
- Drainage, maceration controlled
- No exudate left to pool in wound
- No longer needs to use zinc barrier cream to protect periwound

Case Study 2: Venous Leg Ulcer

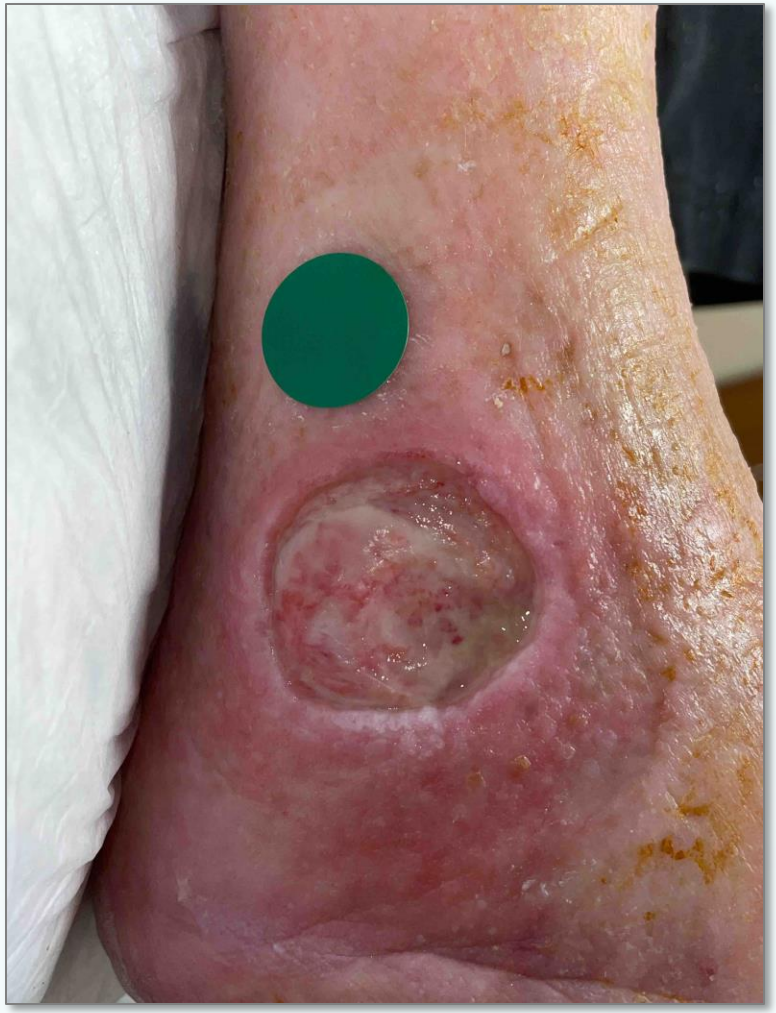
- 50y Female patient with chronic wound (1+ yrs) to left lateral lower extremity
  - Diabetes mellitus
    - A1c not controlled = 13
  - Not 100% compliant with any type of compression
  - Education on cleanliness of dressing changes, cats in home
  - Culture with infection
  - Missed appointments
  - Xray/MRI doesn’t show bone infection



- Patient does not “feel allergic” as she has with other adhesive dressings
- Dressing matches with wound contours (see imprint on dressing)
- Heavy exudate as we treat the infection aggressively

Case Study 3: Venous Leg Ulcer

- 93y patient hospitalized due to CVA; wound to right lateral malleolus
  - Prior to hospitalization, had been working on lymphedema pumps
  - Saw Interventional Radiology for venous procedures
  - Arterial ultrasounds show adequate blood flow
  - X-ray to rule out bone involvement
  - Compliant with compression; started slow and increased



CVA = cerebrovascular accident.



- Even with hydrofiber dressing, bordered silicone foam conforms to depth of the wound
- Wound started with 0.5cm of depth at edges
- Controls maceration with heavy exudate

Silicone Foam Dressing Utilization in Acute Care

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Nursing and Wound Care

Current wound care statistics

- Up to 2/3 of community nursing time is spent providing wound care and management, mainly from delayed healing in chronic wounds
- Global surveys of nurses found that a dressing change occurs once every 3 days if the wound is infected, and, at most, every 6 days in non-infected wounds, regardless of the wound etiology
- A 2018 survey of patients with wounds, across 15 countries, revealed that 40% of patients say pain at dressing change was the worst part of living with a wound

Gefen A, et al. *Adv Wound Care (New Rochelle).* 2024;13(1):34-52. Wound Source. Published Nov. 29, 2017. Accessed Feb. 23, 2025. https://www.woundsource.com/blog/what-foam-dressing.

Nursing and Wound Care

Solution

- Foam dressings are an effective tool for
  - Warm, moist wound healing
  - Managing exuding wounds
  - Minimizing dressing discomfort and pain for patient care

- What makes a silicone foam dressing stand out?
- How can we decrease the time burden on nursing staff?

Gefen A, et al. *Adv Wound Care (New Rochelle).* 2024;13(1):34-52. Wound Source. Published Nov. 29, 2017. Accessed Feb. 23, 2025. https://www.woundsource.com/blog/what-foam-dressing.

Standard RN Staff Skin Assessment Protocol

A. Assess skin integrity, especially bony prominences, for all at-risk patients
B. For patients presenting with skin impairments and wounds
    I. Remove all dressings/packing to assess wounds and provide wound care with clean gauze dressings/packing or per physician/NP/PA order
    II. Note anatomical location and Stage (1-4, Unstageable, DTI if bony prominence involved or under medical equipment); measure wounds (length cm x width cm x depth cm) and any findings of undermining and/or tunneling
    III. Document the nursing assessment/focused assessment/skin in the electronic medical record (EMR) or during downtime in the paper record
    IV. Report wound findings and community-acquired pressure injuries (CAPIs) to Charge RN and during hand-off to Nursing Staff
C. Initiate prevention interventions (positioning, offload heels, prophylactic foam to bony prominences, manage incontinence)

EMR = electronic medical record; CAPI = community-acquired pressure injuries.
Adapted from NewYork-Presbyterian Hospital. Pressure Injury Management, Accessed Jan 27, 2025

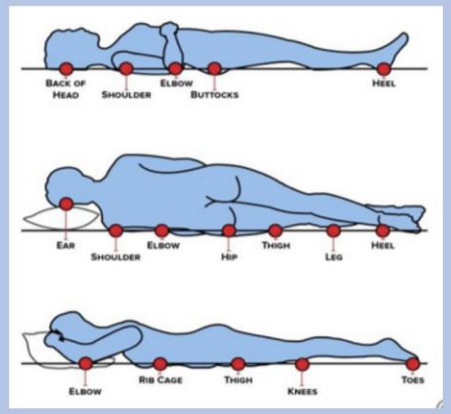
Prior to Placing a Wound Consult

Goal: Empower RN staff to

- Assess
- Determine wound type
- Stage PI
- Document findings
- Select appropriate dressing for wound type

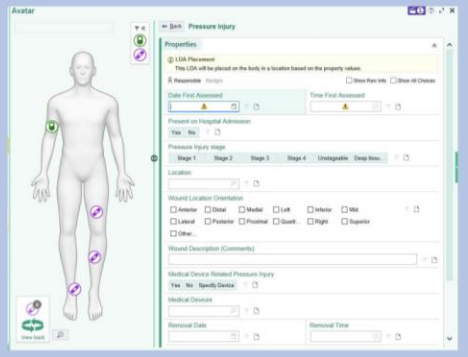
What to Do Before Placing a Wound Consult

Head to Toe Skin Assessment
Best Practice 2 RN assessment



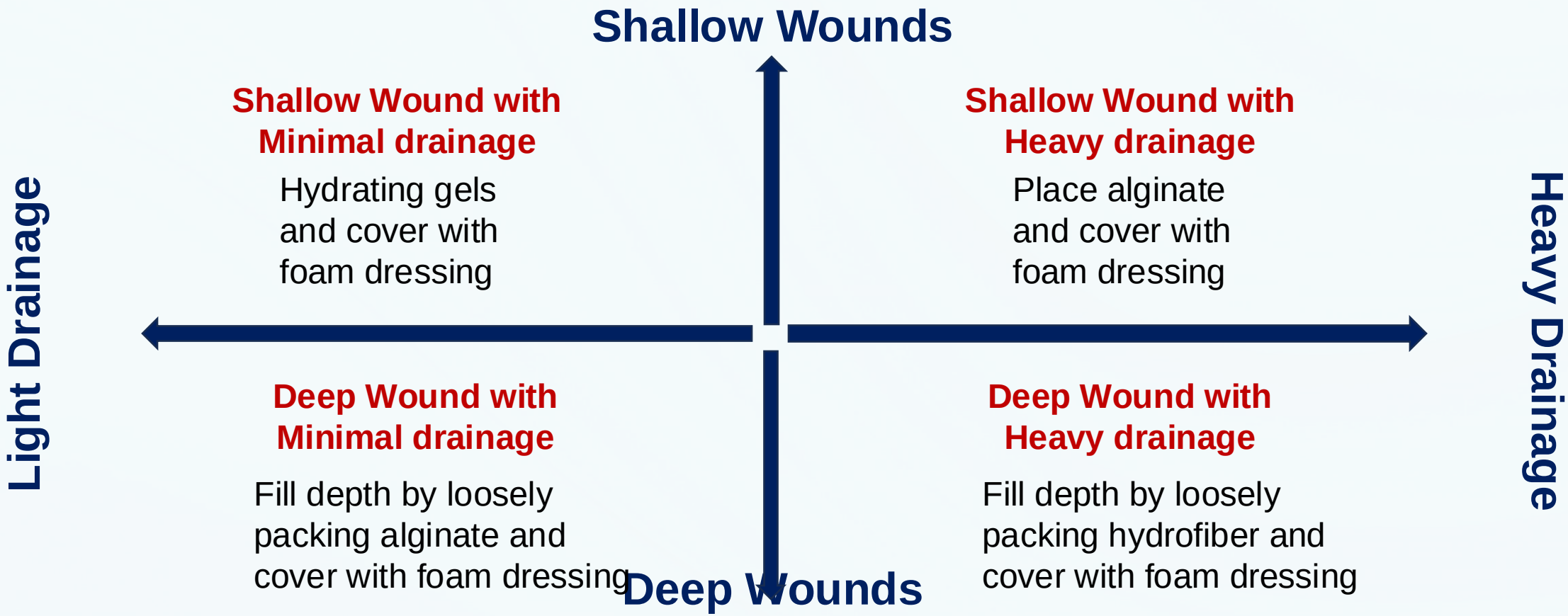
Stage Pressure Injury Appropriately
Utilize your Unit's Skin Champion

Open an LDA in
Flowsheets, Document
Complete Assessment



NYP Patient Care Resources/Skin and Wound Book.pdf. Accessed Feb 7, 2025.

Traditional Selection Guide For Topical Wound Treatments and Dressings

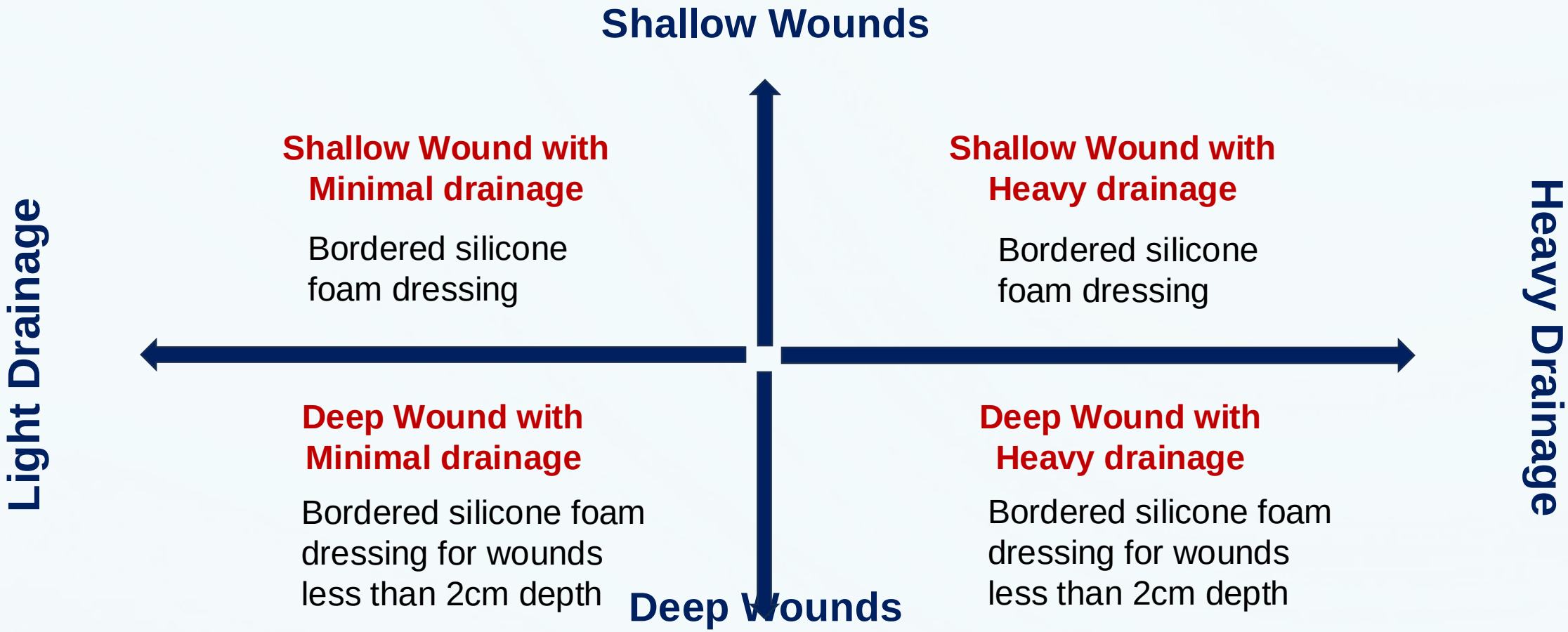


Adapted from NYP Patient Care Resources/Skin and Wound Book.pdf. Accessed Feb 7, 2025.

Simplifying Wound Care

Using the information that you have learned from this presentation, what dressing could meet your wound care needs for all types of wounds that have varying exudate and depth (under 2cm)?

Suggested Selection Guide For Topical Wound Treatments and Dressings



Static Friction Coefficient in Foam Dressings

RN Complaint #1:

Foam dressings bunch and need to be changed too frequently

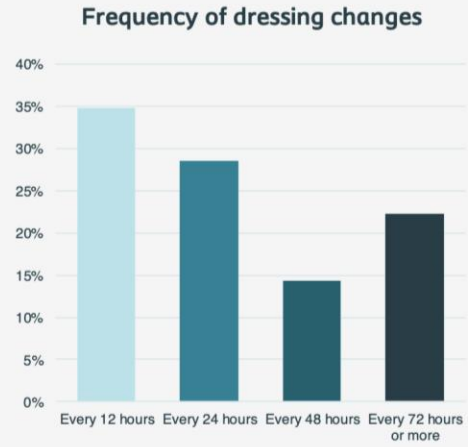
Dressing changes caused considerable pain in 74% of patients surveyed

Nurses were asked: How frequently do you change your current dressing used for PI prevention?

Nurses across the country (N=112) reported:

64% of nurses change the dressing at least every 24hrs

35% of nurses change the dressing at least every 12hrs



1. Data on file. Coloplast staff facilitated conversations with 115 nurses in acute care. Interpretations of their conversations were captured through a survey and quantified. August 2024 – September 2024.

Gefen A, et al. *Adv Wound Care (New Rochelle).* 2024;13(1):34-52. Gardner S, et al. *Wound Repair Regen*. 2017;25(4):558-563.

Will Bordered Silicone Foam Stay in Place?

55% of nurses (120/218) said bordered silicone foam stayed in place better over time than their current dressing

A dressing staying in place better over time may lead to a potential reduction in dressing changes.

1. Data on file. Biatain Silicone Fit evaluation forms completed in February – August 2024.

Peel Adhesion Force in Foam Dressings

RN Complaint #2:

Foam dressings do not stick after skin reassessment

Nurses were asked: How often are you able to lift and reapply your current dressing without compromising its effectiveness?

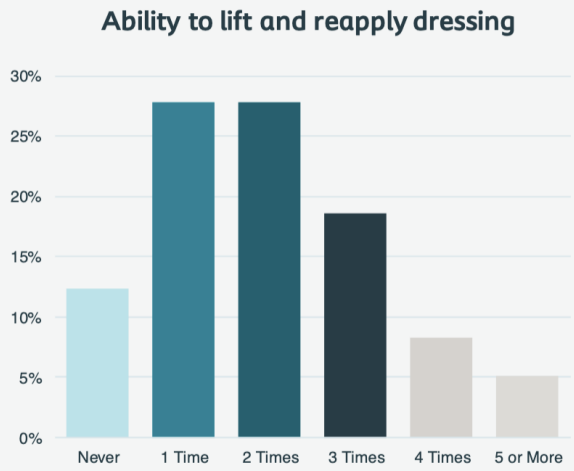
Nurses across the country (N=97) reported:

2 times

68% of nurses are only able to lift and reapply 2 times or fewer

4 times

13% of nurses were able to lift and reapply 4 or more times



1. Data on file. Coloplast staff facilitated conversations with 115 nurses in acute care. Interpretations of their conversations were captured through a survey and quantified. August 2024 – September 2024.

An upgraded silicone allows the bordered silicone foam dressing to be applied and reapplied 5 times over 3 days, helping to reduce waste.

60% of nurses (137/229) rated bordered silicone foam as easy to lift and reapply

A product that is easy to lift and reapply may increase the wear time and lead to a potential reduction in dressing changes.

1. Data on file. Biatain Silicone Fit evaluation forms completed in February – August 2024.
For illustrative purposes only. This information is not intended to constitute medical or business advice or in any way replace the independent medical judgment of a trained and licensed physician with respect to any patient needs or circumstances and may not be representative of all patient outcomes. Actual amounts, performance, outcomes, and experience may vary. Prior to use, refer to product labeling for complete product instructions for use, contraindications, warnings and precautions.

Listening to RN Concerns

RN Complaint #3: *I cannot perform a skin assessment without lifting pieces of dressing out of the wound when I lift the the foam*

Because the bordered silicone foam matches the wound to better manage exudate, the need for primary filler dressings is reduced. Exudate is absorbed vertically retained in the foam layers

Prevent the Plop

Listening to RN Concerns

RN Complaint #4:
There are too many steps with WOC Nurse's recommendation

The need for multiple products is decreased; less time involved in getting supplies and removing the waste that collects in patient rooms.

The dressing matches wound shape and depth without fillers and absorbs drainage vertically, preventing maceration of the periwound and decreasing the need for barrier creams and films

Silicone Foam Dressing Conclusions In Acute Nursing Care

- Effective for warm, moist wound healing, manage exuding wounds, and minimizing dressing discomfort and pain for patient care
- Prevents unnecessary dressing changes due to its increased ability to stay in place, which also decreases pain from dressing changes
- Nurses report that can be lifted and reapplied (up to 5 times in a 3-day wear time)
- May be used for different types of wound and will fill a wound depth up to 2cm preventing the need for filler dressings and “prevent a plop” of dressings when reassessed during daily skin care
- Absorbs vertically and seal drainage decreasing maceration and preventing additional barrier creams and films need for periwound protection

Poll Question

How do you see simplified wound care impact patient and caregiver involvement in their wound care?

Questions?

Thank you!

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Richlen B. *Wound Source*. Published Nov. 29, 2017. Accessed Feb. 23, 2025. https://www.woundsource.com/blog/what-foam-dressing

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NewYork-Presbyterian. Pressure Injury Management. Hospital Sites: NYP-AH, NYP-BMH, NYP-CU, NYP-LMH, NYP-MSCH, NYP-W, NYP-WC Department of Nursing, Standards Manual Number: PROT 1860. Accessed 2/7/2025