Wound Care Quiz Show

Kyna Shonkwiler, RN, BSN, CHPN
Clinical Nurse Educator

Bridget McCrate Protus, PharmD, MLIS, BCGP, CDP
Director of Drug Information

Optum Hospice Pharmacy Services

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This discussion will include off-label use of medications.
<table>
<thead>
<tr>
<th>Hydrocolloids, Alginates, Foams, Oh my!</th>
<th>To Debride or Not to Debride</th>
<th>Take Action!</th>
<th>Scary Pictures</th>
<th>No Pressure Here!</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>20</td>
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<td>50</td>
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<td>50</td>
<td>50</td>
<td>50</td>
</tr>
</tbody>
</table>

Category 1 questions follow
Question

This dressing, derived from brown seaweed, absorbs wound exudates and forms a gel mass, protecting the wound bed.

Answer

What is an alginate?
- Never use in conjunction with hydrogels
- Calcium alginate also has hemostatic properties
- Silver alginate has antimicrobial properties
- Available in sheets or ropes
Question

This product forms a transparent coating to protect the periwound skin from trauma while promoting dressing adhesion.

Answer

What is skin barrier film or skin sealant?

- Available as a wipe, foam applicator, swab, or spray
- Use prior to applying any adhesive to the skin
- Formulated with or without alcohol; preparations with alcohol may cause a burning sensation
- Provides waterproof, durable, breathable coating to the skin
Question

This glycerin- or water-based polymer donates moisture to the wound.

Answer

What is hydrogel?
• Available as a sheet, gel, or impregnated gauze
• Refrigerate sheets to provide relief from pruritus or radiation dermatitis
• Promotes autolytic debridement
• Requires a secondary dressing
Question

This product is the first layer of dressing to be placed on the wound bed to protect granulation tissue.

Answer

What is a contact layer or silicone layer?
• Contraindicated in dry wound beds, tunneling and undermining, wounds with thick or purulent drainage
• Fluid passes through to be absorbed by secondary dressing
• Topical agents can be applied over the silicone layer
• Change once every 7 days regardless of frequency of secondary dressing changes
• Place in wound; do not overlap with periwound skin
Question

This gel-like wafer absorbs wound exudates and provides painless, selective autolytic debridement.

Answer

What is a hydrocolloid?
- Chemical reaction between the dressing and the wound exudate produces an odor
- Avoid use with infected wounds or immunocompromised patients
- Provides light to moderate absorption
- Can be a primary or secondary dressing
- Can be used to windowpane tape a wound to provide additional protection to fragile periwound skin
Category 2 questions follow

Question

Painful, non-selective, mechanical debridement that is no longer recommended.
What is wet-to-dry dressing?

- Must be done 3 to 6 times per day
- Damages newly formed viable tissue
- Effectively debrides wounds but causes excessive pain, caregiver burden, and risk of additional tissue degradation

This enzymatic debriding ointment is the only one FDA-approved in the US.
**Answer**

**What is collagenase (Santyl®)?**

- Derived from *Clostridium histolyticum*
- Selectively digests necrotic tissue by dissolving the collagen that secures avascular tissue to the wound bed
- Requires a secondary dressing
- Can be used on infected wounds
- Must be changed 1 to 2 times daily
- Inactivated by silver products, some cleansing agents, and antimicrobials
- Avoid use if decreased arterial blood flow

**Question**

This solution acts as a chemical debriding agent only if used “full strength”.

To Debride or Not to Debride

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To Debride or Not to Debride

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Answer

What is sodium hypochlorite (Dakin’s®) solution?
• Full strength = 0.5% (also available as ½- and ¼- strength)
• If using as a debrider must be changed 2 times per day
• Will also reduce odor
• Can be used on infected wounds
• Denatures protein to loosen slough
• Contraindicated for arterial or venous ulcers

To Debride or Not to Debride

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Question

This method of debridement must be performed by a physician or a licensed wound care specialist under sterile conditions.

To Debride or Not to Debride

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What is sharp or surgical debridement

- Most rapid method of removing large amounts of necrotic tissue
- Seldom performed in end of life care
- Converts chronic wound to acute, healable wound
- Painful, non-selective, causes bleeding
- Eliminates bacterial bioburden

Uses the wound’s own enzymes to digest devitalized tissue leaving healthy tissue intact.
What is autolytic debridement?
• Painless, selective, but slow
• Do not use as sole method of debridement for infected wounds or immunocompromised patients
• Accomplished with use of moisture retentive dressings (alginate, hydrocolloid, transparent)

Category 3 questions follow
Anna is an 84yoa with vascular dementia, living with her daughter. She has a FAST 7d / PPS 20%. PMH includes CAD. She takes 2-3 bites/meal (pureed diet, likely aspirating). She weighs 86 pounds. Stage 3 pressure injury on her coccyx measuring: 8cm x 6cm x 2cm. Slough is present; undermining is present but no tunneling; large amount of purulent drainage (malodorous). She is incontinent of bowel and bladder; periwound tissue macerated. Anna becomes agitated and combative with wound care interventions. Her daughter is frustrated that this wound isn’t healing. Current wound care:

• Changing the dressing daily
• Cleansing with CarraKlenz® wound cleanser
• Applying collagenase (Santyl®)
• Applying foam with silver
• Covering with hydrocolloid dressing

How many are comfortable having a conversation with the daughter to discuss if the wound is healable?

B: Build trust and respect
“You do a great job advocating for your mom.”

U: Understand what the daughter knows about this wound
“What has the visiting physician said about the likelihood of this wound healing?”

I: Provide evidence-based information about this wound and wound healing
“Here’s what we know about what is contributing to this wound healing or not healing...”
• Environmental factors: pressure, moisture, shear, friction
• Physiological factors: nutrition, tissue perfusion and oxygenation, effect of medications, wound chronicity

L: Learn what the daughter’s expectations for this wound are once you’ve provided her with information to make informed decisions
“Let’s talk about some realistic treatment options...”

D: Develop a collaborative Plan of Care
“So we’ll focus on minimizing the pain and odor associated with this wound and better management of drainage. Our goal will be that the wound won’t get any larger, that it will stabilize, but it’s not likely to heal, because of her disease process, not because she’s not receiving good care.”
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**Question**

*What concerns do you have for this wound POC?*

*What recommendations would you make?*

**Answer**

**Concerns**
- CarraKlenz® inhibits activity of collagenase
- Silver deactivates collagenase
- Hydrocolloid dressing creates odor; difficult to determine source of odor (wound or dressing)

**Recommendations**
- Goals: Prevention (minimize pressure, moisture, shear, friction), Preference (patient/family choice of positioning, nutrition, etc), Palliation (symptom management)
- Continue cleansing with CarraKlenz® wound cleanser
- Protect periwound tissue with skin barrier film. Ex: Skin-Prep Protective Barrier Wipe®, Cavilon No Sting Barrier Film®
- Apply silver alginate for debridement, to fill dead space created by undermining, topical antimicrobial and exudate management. Ex: Maxorb Extra Ag®, Melgisorb Ag®
- Cover with foam with border. Ex: Mepilex Border®, Optifoam®

**Other considerations**
- Pain management: topical, systemic (pre-medicating before wound care)
- Support surface
- Physiological factors: nutrition, medications impacting healing, perfusion, oxygenation
- Environmental factors: incontinence, shear, friction, pressure
Mrs. Anderson is 53yoa; just admitted to hospice with a diagnosis of metastatic breast cancer. She has a large malignant wound involving her entire right breast. Wound has large amount of foul smelling, purulent drainage; bleeds with dressing changes. She describes burning, stabbing pain at all times but worse with dressing changes. She rates her pain 4/10 at best, 8/10 at worst.

Current wound care interventions:
- Changing 1-2 times per day
- Cleansing with Skintegrity® wound cleanser
- Applying metronidazole gel
- Applying petrolatum impregnated gauze
- Covering with ABD
- Taping with paper tape

**Question**

*What concerns do you have for this wound POC? What recommendations would you make?*

**Answer**

**Concerns**
- Metronidazole gel is adding moisture to an already wet wound
- ABDs do not wick away exudate; this contributes to maceration and potentially infection
- Tape can contribute to further breakdown of periwound tissue, particularly with malignant wounds

**Recommendations**
- Goal: Preference (patient’s choices), Palliation (symptom management)
- Cleanse: Continue cleansing with Skintegrity® wound cleanser with each dressing change; if she’s able, encourage cleansing the wound in the shower, allowing the water to hit the skin above the wound and rinse downward
- Symptom Management:
  - Odor: Change metronidazole gel to crushed metronidazole tablets; apply BID for 10-14 days
  - Continue applying petrolatum impregnated gauze
  - Bleeding and exudate: calcium alginate. Ex: Melgisorb®, Maxorb Extra Alginate Wound Dressing®
- Dressing: Foam dressing without border. Ex: Mepilex Foam®, Polymem®
- Use a tubular net dressing to secure

**Other considerations**
- Pain management (topical lidocaine + PRN opioid)
- Non-pharm and pharmacological preparation for acute event bleeding
- Psycho-social implications of wound
Mr. Robertson is a 68 yo African American male just admitted to hospice with a diagnosis of peripheral vascular disease (PVD). Comorbidities include HTN and DM. He was just discharged from the hospital to home where he lives with his wife. He has a PPS of 40%; he spends most of his day up in his wheelchair.

When he was ambulatory he had claudication of both lower extremities. He now has pain at rest in his lower extremities which is worse at night. The tip of his right great toe is covered with stable, black eschar. He had amputation of the first two toes on his left foot and now has a gangrenous ulcer on the lateral aspect of his left foot—the result of tape that was used to hold a dressing in place. Prior to admission to hospice a toe pressure (TcPO2) on his right foot was measured and shown to be 18 mmHg (indicates poor healing potential).

What recommendations would you make?

Goals: Preservation (stabilizing), Palliation (symptom management)

Right foot
- Paint with povidone iodine
- Cover with a loose sock
- Do NOT debride

Left foot
- Protect periwound area with skin sealant
- Cleanse wound with Restore® wound cleanser
- Symptom management (odor, infection): apply honey daily
- Dressing: cover with foam (Optifoam®)
- Hold in place with gauze or a sock
Mr. Z is 82yo with a hospice diagnosis of COPD. His PMH includes CHF, CAD. He was admitted to hospice 2 days ago and has just returned home after a 10 week stay in a SNF. His wife is now his primary caregiver. Prior to his return home he spent 2 weeks in the hospital for an acute exacerbation of his COPD. He is now bedbound, occasionally incontinent of bladder, poor oral intake and weighs 90 pounds.

He has stage 3 pressure injury on his coccyx, measuring 8cm x 10cm x 1cm; present x1 month with increasing purulent exudate, slough, foul odor. The wound is painful and wound edges are macerated. Current wound care:

- Cleansing daily with wound cleanser (Skintegrity®)
- Collagenase (Santyl®) daily
- Covered with foam dressing with border (Mepilex®)

Is this wound healable?

Is this wound infected?

NERDS (local infection) vs STONEES (systemic infection)

N-nonhealing
S-size of wound is bigger
E-exudate increases or changes
T-temperature increase of periwound area
R-red, bleeding surface granulation tissue
O-“os” (Latin for bone) is exposed
D-debris on surface (yellow or black)
N-new areas of breakdown
E-exudate increases or changes
S-smell is unpleasant

Recommendations

- Goals: Prevention of further breakdown, Palliation of symptoms
- Cleanse: Wound cleanser (Skintegrity®)
- Topical antimicrobial: Cadexomer iodine
- Cover with foam with border (Mepilex®)
Category 4 questions follow

Question

Scary Pictures!
What is eschar?

• Thick, leathery black or brown crust
• Unstageable
• Stable = firmly adherent, hard, non-infected, dry
• Stable → leave it alone; paint with povidone iodine and leave open to air
• Serves as the body’s natural cover
What is slough?

- Moist, necrotic tissue containing proteinaceous tissue, fibrin, neutrophils, and bacteria
- May be grey, yellow, white, or tan
- Debride to help control exudate, odor, bioburden, and to visualize the wound bed for proper staging
What is a stage 4 pressure injury (ulcer)?

- Result of pressure over a bony prominence
- Full thickness tissue loss involving bone and tendon; tunneling and undermining often present
- Increased risk of osteomyelitis
- Slough or eschar are likely to be present
What is undermining?

- Pocket that extends beneath the skin at the ulcers edge
- Results in dead space
- Fill dead space with alginate roping
- Measure extent with cotton tipped swab
Answer

What is a malignant wound?

• Due to disease progression; non-preventable, rarely healable
• Associated with bleeding, odor, pain, infection
• Can be ulcerative and crater-like, or proliferative and raised
• Symptoms due to tumor outgrowing its blood supply
• Major psycho-social/emotional impact on patients

Category 5 questions follow
Caused by shear, friction, or blunt force resulting in separation of skin layers. Can be partial-thickness (separation of the epidermis from the dermis) or full-thickness (separation of both the epidermis and dermis from underlying structures).

What are skin tears?

- Dressing selection: maintain moist wound healing; protect periwound skin; manage exudate and infection; optimize caregiver time
- Avoid hydrocolloids, transparent films, closure strips (can cause skin stripping and injury to the healing skin tear)
- Replace the skin flap, if possible, even if it doesn’t completely cover the wound. Draw an arrow on the outside of the dressing to indicate the direction of the skin flap to lessen disruption of the flap with dressing changes
- Remove hardened or blackened flap (considered eschar)
- Use STAR classification system to grade skin tears
- Limit routine bathing and showering
Question

This wound, with shallow, well defined borders, is refractory to healing unless perfusion can be improved; also prone to infection.

Answer

What is an arterial ulcer?

- Pain is usually severe; occurs at rest and increases with elevation of the extremity (may be worse at night)
- Dangling legs over the side of the bed relieves pain (increases blood flow to ischemic nerves)
- Infection is common, including gangrene
- Pulses may or may not be present due to occlusion of one or more arteries
Question

Hemosiderin staining is often seen in conjunction with these wounds.

Answer

What is a venous ulcer?

• Account for 70-90% of lower extremity ulcers
• Shallow, with irregular edges
• Heavy exudate is common
• Typically between ankles and knees
• Pulses are usually present
Question
These wounds are often mislabeled burns but differ from burns in terms of cause, duration, extent, wound progression

Answer
What is radiation induced skin reaction (aka radiation dermatitis)?

- Radiation damages malignant cells as well as normal tissue
- Onset depends on dose intensity & patient’s tissue sensitivity; graded 1-4
- Acute effects (erythema, edema, dry desquamation) manifest in 2-3 weeks after beginning therapy and resolve 1-3 months after therapy has ended
- Late effects (loss of sweat, sebaceous glands and hair follicles; telangiecstasia, blood vessels are visible) develop over months or years
Question

General term for inflammation or skin erosion due to prolonged exposure to moisture (urine, stool, wound drainage, etc).

Answer

What is moisture associated skin damage (MASD)?

- 4 types: periwound, peristomal, incontinence associated (IASD), intertriginous (skin folds)
- Another complicating factor is required: mechanical (e.g., friction), chemical (irritants in moisture source), or microbial factors
- Manage wound exudate with appropriate dressings, apply a skin protectant, minimize skin exposure to urine & stool, use a pH balanced skin cleanser
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