All Wounds are not Created Equal

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Objectives

• Describe different types of wound dressing therapies.

• Diagnose and treat wounds based on examinations.
The down and dirty – wound care in a nutshell
<table>
<thead>
<tr>
<th>Type</th>
<th>How Often</th>
<th>Where</th>
<th>Wound Bed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transparent</td>
<td>Weekly and prn leak</td>
<td>Best for extremities</td>
<td>Superficial or stage II; absent to scant exudate</td>
</tr>
<tr>
<td>Hydrogel</td>
<td>Daily to Every Other Day</td>
<td>Any</td>
<td>Granulation or &lt;50% yellow slough; scant to minimal exudate</td>
</tr>
<tr>
<td>Hydrocolloid</td>
<td>Q3-5 days</td>
<td>Best for extremities</td>
<td>Granulation (caution can cause hypergranulation); minimal to moderate exudate</td>
</tr>
<tr>
<td>Foam</td>
<td>Q3-5 days</td>
<td>Best for extremities; ok for sacrum</td>
<td>Granulation; superficial slough covering; moderate to heavy exudate</td>
</tr>
<tr>
<td>Alginate, Gelling Fiber</td>
<td>Daily to Every other Day</td>
<td>Any</td>
<td>Granulation; heavy to excessive exudate; can provide hemostasis for minor bleeding</td>
</tr>
<tr>
<td>Acrylic</td>
<td>Weekly and prn leak</td>
<td>Any</td>
<td>Granulation or &lt;50% yellow slough; minimal to moderate exudate</td>
</tr>
<tr>
<td>Type</td>
<td>Type Details</td>
<td>How Often</td>
<td>Where</td>
</tr>
<tr>
<td>-------------------------------------</td>
<td>-----------------------------------------------------------------------------</td>
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</tr>
<tr>
<td>Betadine</td>
<td>Arterial, Pressure</td>
<td>Twice Daily</td>
<td>Anywhere but sacrum, ischium; best for toes and heels</td>
</tr>
<tr>
<td>Acetalized Polyvinyl Alcohol with Methylene Blue and Crystal Violet</td>
<td>Arterial, Diabetic, Pressure Ulcer; healing surgical dehiscence; PG; vasculitis</td>
<td>Every 3-5 days or prn turns white</td>
<td>Any</td>
</tr>
<tr>
<td>Cadexomer Iodine</td>
<td>Diabetic, venous</td>
<td>Q3-5 days or prn turns white</td>
<td>Best for extremities</td>
</tr>
<tr>
<td>Honey Impregnated</td>
<td>Diabetic, pressure ulcer, venous, arterial, PG, vasculitis</td>
<td>Daily</td>
<td>Any</td>
</tr>
<tr>
<td>Silicone</td>
<td>Diabetic, pressure ulcer, venous, PG, vasculitis, prednisone</td>
<td>Depends on dressing</td>
<td>Any</td>
</tr>
<tr>
<td>Type</td>
<td>How Often</td>
<td>Where</td>
<td>Wound Bed</td>
</tr>
<tr>
<td>------------------------------------------</td>
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<td>----------------</td>
<td>---------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Balsam of Peru, Trypsin, Castor Oil</td>
<td>Deep Tissue Injury pressure ulcer, IV infiltrate, skin tear</td>
<td>Q2h up to q12h depending on timing of injury</td>
<td>Anywhere</td>
</tr>
<tr>
<td>Collagen</td>
<td>Arterial, Diabetic, Pressure Ulcer; healing surgical dehiscence; PG; vasculitis</td>
<td>Weekly under primary dressing</td>
<td>Any</td>
</tr>
<tr>
<td>Negative Pressure (NPWT)</td>
<td>Any</td>
<td>Q2-3d; with negative pressure silver, weekly</td>
<td>Any</td>
</tr>
<tr>
<td>Compression (elastic or layered compression)</td>
<td>Venous, CHF legs</td>
<td>Every 5-7 days</td>
<td>Legs</td>
</tr>
<tr>
<td>Metronidazole 1% ointment</td>
<td>Cancerous, Odorous wounds</td>
<td>2-3x daily</td>
<td>Any</td>
</tr>
<tr>
<td></td>
<td>Nanocrystalline Silver or Silver plated nylon</td>
<td>Silver Sulfadiazine cream</td>
<td>Mafenide acetate 5% solution</td>
</tr>
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<td>------------------------</td>
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<td>-------------------------------</td>
</tr>
<tr>
<td><strong>Log kill</strong></td>
<td>4-8</td>
<td>2-8</td>
<td>2-8</td>
</tr>
<tr>
<td><strong>Penetration of Tissue</strong></td>
<td>Limited</td>
<td>Good</td>
<td>Excellent</td>
</tr>
<tr>
<td><strong>Speed of kill bacteria</strong></td>
<td>Fast</td>
<td>Intermediate</td>
<td>Slow</td>
</tr>
<tr>
<td><strong>Positives</strong></td>
<td>Broad-spectrum long-lasting</td>
<td>Easy to use safe</td>
<td>Easy to use safe</td>
</tr>
<tr>
<td></td>
<td>Great MRSA coverage</td>
<td>Static MRSA coverage</td>
<td>Static MRSA coverage</td>
</tr>
<tr>
<td></td>
<td>Meshed silver dressings great under NPWT for 7 days</td>
<td>Penetrates necrotic material</td>
<td>Great Acinetobactor coverage</td>
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</tr>
<tr>
<td><strong>Negatives</strong></td>
<td>Strict protocol</td>
<td>Can lead to a yellow fibrinous exudate often confused with slough</td>
<td>Tissue maceration of wound edges and subsequent fungal rash</td>
</tr>
<tr>
<td></td>
<td>Concern for emerging resistance</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Parts per million for actual treatment not established</td>
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</tr>
</tbody>
</table>
Case 1

- Patient presents with open wound of left lower abdomen ongoing for months with rashes and wounds
- Numerous visits to ER
- Hx: Nec fasc from OSH, child abuse, chronic pain
- Wound with satellite lesions suspicious appearance
Discussion, Treatment Options
Case 2

• Breast Reduction presents with “areas turned black”
• Hx: diabetes, smoker (no cessation prior to or after surgery 1.5 ppd)
Discussion, Treatment Options
Case 3

- Presents with painful, bruised, hard nodules over legs and abdomen
- Hx: htn, renal failure, dialysis, adrenal insufficiency
Discussion, Treatment Options
Case 4

• Presents with foot pain and wound
• Hx: days before admission had splinter in foot and otherwise negative medical history
Discussion, Treatment Options
Case 5

- Painful nodules and dark tissue of the breast
- Had follow up in clinic for exam and work up but pt. lost insurance coverage
- Continued to have growing lesions and washed area with soap
- Presented to hospital with drainage and inability to be around family and friends due to foul odor
Discussion, Treatment Options
Case 6

• Presents with drainage and “blister” on foot
• Hx: diabetes, neuropathy
• Noticed sock was wet and thought something was “wrong” and came to ER because he can’t see to inspect his foot
Discussion, Treatment
Case 7

• Presented to ER with fever and new lesions on her body from OSH
• Hx: Patient injected heroine/cocaine cocktail and within a week noticed spreading rash and lesions on extremities
• Past hx: Endocarditis with valve replacement
Discussion, Treatment
Case 8

• Presented with avulsed right calf tissue s/p MVA with ejection

• Flap of tissues stapled in place
Discussion, Treatment
Case 9

• Grade IIIB open tib/fib fx rle s/p gastroc and soleus flap with skin grafting

• Upon day of take down, flap site noted to be discolored
Discussion, Treatment
Case 10

- Presented with skin popped open after falling in bathroom and striking leg on tub
- Hx: free radial forearm flap to left medial leg 1 year prior to presentation; 9 months prior had bone debridement by ortho
Discussion, Treatment
Case 11

- Presented with painful, blister, hemorrhagic lesions to left leg
- Hx: drove in car 9 hours and noticed a blistered area that slowly advanced up leg
Case 12

- Presented with necrosis of the nasal tip and penis
- On hospital day 10, foot turned purple and painful
Discussion, Treatment
Case 13

- 58 year old male with diabetes, hypertension, and coronary disease
- Presented to ED with groin, and painful scrotal swelling and possible infection
- Was admitted one week prior to presentation to an OSH with “MI”
Discussion, Treatment
Case 14

- A 2-year-old child presented with a toddler fracture, casted in the ER, and was sent home for follow-up with orthopedics.
- During the follow-up, the child continued to complain of pain, and upon cast removal, tissue on the dorsum of the foot was noted to be dark.
- Days later, the child presented to the ER with fever, increasing pain, and vomiting.
Discussion, Treatment
Case 15

- Paraplegic with femur fx left leg after falling from wheelchair
- Left leg splinted for treatment of fracture
- Presented for admission with erythema of the foot, fever, and elevated WBC after splint removal
- Found to have UTI after 2 days in hospital with bacteria same as blood culture
Case 16

• Ischial pressure ulcer s/p myocutaneous flap in 2015

• Presented to ER June 2016 after family became concerned about altered mental status, fever
Case 17

• 1 year history of infected abscess of lower back s/p debridement with ongoing drainage, fever
• Hx: paraplegic after MVA at the age of 11; multiple pressure ulceration in past with flap surgery repair, chronic pain
• Admitted: MRI shows extensive osteomyelitis of entire pelvic structures and sacrum; hardware of spine exposed
Discussion, Treatment
Case 18

- Presented neutropenic after induction of chemotherapy; thrombocytopenia
- Hx: bone biopsy and wound consult placed 2 days later after pressure dressing removed
Case 19

- Presented with painful nodule in left groin with redness streaking down the leg
- Saw a spider crawling out of pants the day before
Case 20

• 18 month old child presents after bite by Copperhead snake at daycare to the left thumb
Summary

• Use clinical judgment to select a moist wound dressing
• There is a plethora of products used for topical treatment of wounds
  – Each wound has to be evaluated on an individual basis
  – Each wound has to be evaluated at different stages of healing
  – Different parts of the same wound may have different characteristics
  – Know your patient resources and support
Thank you!!