Wound care and pressure ulcer prevention in the palliative health care setting

Laura Teague, RN(EC), MN, NP-Adult, PhD(c)
April 10, 2015
Conflict of Interest Declaration: Nothing to Disclose

Presenter: Laura Teague
Title of Presentation: Palliative Wound Care

I have no financial or personal relationships to disclose
Objectives

• Discuss skin changes at life’s end
• Define Skin failure
• Pressure ulcer prevention in palliative patients
• Wound management strategies for wounds that are deemed palliative
Skin changes and aging

- The skin comprises between 10% and 15% of a person’s body weight.
- The skin serves a variety of functions, including protection, storage of fat and water, regulation of temperature, management of waste exchange, vitamin D synthesis, and touch.
- As an individual ages, skin becomes drier, less elastic, and less well perfused, making it vulnerable to damage from trauma, pressure, moisture, friction, shear, and malnutrition.
• Other changes are related to replicative senescence; the epithelial and fatty layers become thinner and more prone to irritation and disruption, the collagen and elastic fibers shrink approximately 1% per year, and the sweat glands decrease in number and size.
• The skin vascularity diminishes, arteriosclerotic changes occur in the small and large vessels, and the vessel walls thin.
• Consequently, the oxygen-carbon dioxide exchange decreases, tissue turnover slows, and ecchymosis occurs more frequently.
• All of these damaging factors can, alone or in combination, result in skin breakdown.
• The inflammatory response decreases and regeneration of tissue is slower with these skin changes, delaying healing and often making tissue more prone to infection.

Skin Failure?

An event in which the skin and underlying tissue die due to hypoperfusion that occurs concurrent with severe dysfunction or failure of other organ systems.

Skin failure can be categorized as acute (ICU, OR, trauma) chronic (DM II, SCI), or end stage (palliative care)

Pressure ulcers and palliative patients

• Pressure ulcers, a type of skin death, frequently occur in persons with a heavy disease burden, especially those at or near the end of life, despite good care.

• End-stage skin failure is an event in which skin and underlying tissues die due to hypoperfusion concurrent with the end of life.

• Mortality rates range from 20.8% within 30 days of first detection of skin failure to 73.3% at 1 year after onset of skin failure in the long-term-care setting.
Are pressure ulcers preventable in Palliative patients?

In many cases, yes

However, if the ulcer is present on admission, goal is to prevent further pressure ulcers, promote comfort and quality of life

Goals

• Offload the pressure point
  – Air loss beds, heel boots, buckwheat pillows, turn patient frequently
• Provide pain relief
• Maintain stable eschar if possible
• Avoid moisture exposure
  – Use antiseptics that promote desiccation
  – Do not use dressings that promote moisture retention or donate moisture
• Debridement only if improves quality of life
3 Steps to Prevent Pressure Ulcers

1. Perform Braden Risk Assessment M-W-F in medical surgical units or daily in ICUs

2. Identify at risk patients (Total Braden scale <16 or subscore ≤3)

3. Implement and document prevention strategies

### Braden Risk Assessment

<table>
<thead>
<tr>
<th>Sensory Perception - Ability to respond meaningfully to pressure-related discomfort</th>
<th>Interventions for Pressure management</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Completely Limited</td>
<td>Skin checks and document findings once per shift</td>
</tr>
<tr>
<td>2. Very limited</td>
<td>Select appropriate therapeutic surface</td>
</tr>
<tr>
<td>3. Slightly limited</td>
<td>OT or PT consult</td>
</tr>
<tr>
<td>4. No impairment</td>
<td>Use appropriate protective, offloading &amp; positioning devices</td>
</tr>
</tbody>
</table>

### Friction and Shear

<table>
<thead>
<tr>
<th>Friction and Shear</th>
<th>Interventions for Pressure management</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Problem</td>
<td>Encourage patient to move as appropriate</td>
</tr>
<tr>
<td>2. Potential Problem</td>
<td>Interventions for Nutrition management</td>
</tr>
<tr>
<td>3. No Apparent Problem</td>
<td>Interventions for moisture management</td>
</tr>
</tbody>
</table>

### Activity - Degree of physical activity

<table>
<thead>
<tr>
<th>Activity - Degree of physical activity</th>
<th>Interventions for Pressure management</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Bedrest</td>
<td>Interventions for Nutrition management</td>
</tr>
<tr>
<td>2. Chairrest</td>
<td>Monitor food intake</td>
</tr>
<tr>
<td>3. Walks Occasionally</td>
<td>Interventions for moisture management</td>
</tr>
<tr>
<td>4. Walks Frequent</td>
<td>Use Skin Protectant</td>
</tr>
</tbody>
</table>

### Mobility - Ability to change control body position

<table>
<thead>
<tr>
<th>Mobility - Ability to change control body position</th>
<th>Interventions for Pressure management</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Completely limited</td>
<td>Use appropriate incontinence management system</td>
</tr>
<tr>
<td>2. Slightly limited</td>
<td>Consider Low Air Loss mattress</td>
</tr>
</tbody>
</table>

### Completely independent

<table>
<thead>
<tr>
<th>Completely independent</th>
<th>Interventions for Pressure management</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Very poor</td>
<td>Refer to a dietitian</td>
</tr>
<tr>
<td>2. Adequate</td>
<td>Interventions for moisture management</td>
</tr>
<tr>
<td>3. Excellent</td>
<td>Use Skin Protectant</td>
</tr>
</tbody>
</table>

### Moderately independent

<table>
<thead>
<tr>
<th>Moderately independent</th>
<th>Interventions for Pressure management</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Very poor</td>
<td>Refer to a dietitian</td>
</tr>
<tr>
<td>2. Adequate</td>
<td>Interventions for moisture management</td>
</tr>
<tr>
<td>3. Excellent</td>
<td>Use Skin Protectant</td>
</tr>
</tbody>
</table>

### Completely independent

<table>
<thead>
<tr>
<th>Completely independent</th>
<th>Interventions for Pressure management</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Very poor</td>
<td>Refer to a dietitian</td>
</tr>
<tr>
<td>2. Adequate</td>
<td>Interventions for moisture management</td>
</tr>
<tr>
<td>3. Excellent</td>
<td>Use Skin Protectant</td>
</tr>
</tbody>
</table>
Guidelines for use of Therapeutic Surfaces

Braden Score ≤ 12
or
Requires maximal assistance with turning and positioning
or
Existing Stage 3 or 4 pressure ulcer located on trunk

Cleared Spines?

YES

High moisture levels (diarrhea, drainage, diaphoresis)
or
Complex/multiple pressure ulcers
or
Hemodynamic instability (ICU Only)

Low Air Loss Surface

MILLENIUM III
< 225kg

THERAPULSE ATP
≤ 135 kg
(wound care consult required)

BARIATRIC w/ air
≤ 450kg

NO

Non Motorized Surface

ISOFLEX
≤ 225kg

RIK
≤ 160kg

BARIATRIC w/ foam
≤ 450 kg

Total body edema?

To order a therapeutic surface, call Clinical Equipment Department at x3813 and follow the prompts.
Positioning devices

Buckwheat pillow
Re-useable
(approx 100$)

Single patient
use – soft foam
approx $60

Re-useable,
washable
(approx 120$)
Debridement?

- Should be avoided if the wound is stable and dry

However:

- May be required if wound unstable
- If odour is significant
- If abscess is present
- If drainage is excessive
Debride?

YES
Use Povidone gauze packing or metronidazole 10% cream and gauze for odour
ABD pads
Change daily until the odour and drainage subside then reduce to q 2 days
Provide pressure relief
Treat cellulitis if present
Case 2

Debride?

Goal: keep eschar stable
Use Povidone gauze and ABD pad
Change q 2 days and prn
Provide pressure relief
Provide pain relief
Case 3 – Ischemic limb and pressure ulcer
Dressings

Avoid moisture exposure

Do not use dressings that promote moisture retention or donate
Approach to palliative wound management

The overall aim of wound care is to manage

- odour
- pain
- hemorrhage
- exudate

• Most malignant wounds will increase in size and deteriorate
• Outcome measures are not based on healing but the ability of the treatment to meet the goals
• Dressings must be comfortable, easy to apply and must remain in place without interfering with physical function
• Patient and caregiver education is essential for ongoing management
• Quality of life can be improved through symptom management

Case 4 Fungating tumors

ISSUES:
Bleeding, exudate and odour
Stabilize wound

• Fungating wounds are critically colonized
  – High exudate
  – Can be painful especially at the wound edges
  – Foul odour
  – Bleeding is common
When choosing dressings

- Is it conformable and comfortable?
- Can it be left in place for a long time?
- Will it prevent leakage between dressing changes?
- Can it manage odour?

- Is it easy to remove?
- Is it easy to use?
- Is it cost-effective?

Stephen-Hanes, 2010
Dressing technologies to manage exudate

- Gauze
- Cellulose dressings (e.g. Aquacel)
- Foams (e.g., Allevyn, Biatain, Mepilex)
- Super absorber dressings (E.g., Mesorb, Exudry, Mextra, ABD pads)
Dressings that are non-adherent

- Petrolatum based dressings (e.g. Adaptic)
- Cellulose dressings (e.g., Aquacel)
- Silicone interface (Mepitel)
- Silicone foams (e.g., Mepilex, Allevyn Life, Biatain)
Bleeding wounds
Hemostatic agents

- **Alginites**
  - act as calcium ion (Ca) donors as they contain mannuronic (M) or guluronic (G) groups with a high Ca content. A study compared the effects of calcium and zinc containing alginites and non-alginate dressings on blood coagulation and platelet activation to determine which was the best haemostat.
  - alginites containing zinc ions had the greatest potentiating effect on prothrombotic coagulation and platelet activation
- **Surgicel**
  - made of an oxydized cellulose polymer (the unit is polyanhydroglucuronic acid

Wound odour

Wound Management options:
-- Dry out necrotic debris – povidone iodine
• Alter pH of wound bed
  - Acetic acid 0.5% when pseudomonas species is present
  - Hygeol (Hypochlorite solution)
• Kill anaerobic putrid bacteria
  - E.g. metronidazole 10% cream on fungating ulcers daily

Odour control

- **Vinegar**: neutralizes odour
  - irritates mucosa
- **Air fresheners** - Vanilla, coffee beans, potpourri
  - mask odour
- **Charcoal** and kitty litter
  - absorbs odour
  - Charcoal stops working when it gets wet


**Goal is to remove the violaceous odour by killing the anaerobes.**
Case 4 Management Plan

- Palliative radiation for tumor reduction

NO SHARP DEBRIDEMENT
- shower
- Q 2 day dressings
- Metronidazole 10% cream, cellulose dressings (autolytic debridement)
- Adhesive foam dressings customized to fit tumor
6 weeks later
- Q 2 day dressings
- Metronidazole cream, Aquacel
- Adhesive foam dressings customized to fit tumor
Case 5: Dry fungating tumor

Non adherent dressing
Abdominal/diaper technology dressing for protection
Pain relief
Summary

• Wounds the a palliative setting are common and complex
  – negatively impact patient and families' well-being

• By shifting the priorities from curative to palliative as the progressive nature of the disease demands, palliative principles introduced early into wound care provides the patient and families options that can maximize functional status and quality of life
