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Wound Management in the Home

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Objectives

The participant will be able to:

- Identify four key factors that contribute to the wound healing outcome.
- Describe four types of wounds and appropriate treatment plans.
- Describe at least two generic categories of topical wound dressings including evidence based practice/rationale for use.
- Describe the rationale for using durable medical equipment to promote wound healing and prevent skin breakdown.
- List at least three professional practice guidelines for physical therapists in regards to wound management.
How is the patient referred to homecare?

- Hospital Discharge or Community Referral based on Medical Need and Homebound Status
- Where is home?

Percentage of Patients Admitted to Home Care Services with Wounds

<table>
<thead>
<tr>
<th>Type of Wound</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pressure Ulcer</td>
<td>5%</td>
</tr>
<tr>
<td>Stasis Ulcer</td>
<td>2%</td>
</tr>
<tr>
<td>Surgical Wound</td>
<td>26%</td>
</tr>
<tr>
<td>Other Skin Lesion</td>
<td>25%</td>
</tr>
</tbody>
</table>

Source: CMS Patient-Related Characteristics Report May 2016 through April 2017
Home Care Patients at Risk of Developing Pressure Ulcers

Source: CMS Patient-Related Characteristics Report May 2016 through April 2017

Home Care Patients Hospitalized with a Wound Infection

Source: CMS Patient-Related Characteristics Report May 2016 through April 2017
What Can Affect Wound Healing Potential in the Home Environment?

- Medications/co-morbidities
- Non-Compliance with treatment plan
- Poor Dietary Choices, lack of supplements/vitamins
- Communication with the medical provider
- Cultural Beliefs
- Environmental Conditions: Cleanliness, lack of heat/air conditioning
- Lack of support redistribution surface

OBSTACLE: Where is Your Patient Going ??

- Where is home? ......Homeless Population
- Animals/Pets: No animal should be present when wound dressings are changed.
- Cleanliness: Is there running water? Is the shower working?
- Safety Issue: The environment needs to be assessed for safety of the patient and the homecare staff. Adequate lighting is needed for wound care.
What’s Behind Those Closed Doors?

- Does the patient live alone? Is there a caregiver?
- Is there a willing caregiver?
- Who does the shopping? Can they get their prescriptions?
- Who does the cooking? Are there resources for healthy food?
- Are they using oxygen? Are there signs indicating O2 in use?
- Can they get in and out of the house to go to the doctor for follow-up?
- Is the environment clean and uncluttered?

OBSTACLE: Absence of willing caregiver involved in the plan of care?
Who Will Learn The Wound Care?

- The role of the homecare professional is to assess the wound and to teach the patient and/or caregiver to perform the wound care. The staff must observe the return demonstration before allowing the caregiver to perform the treatment independently.

- OBSTACLE: NO WILLING CAREGIVER

- Scenario: The elderly patient goes to the doctor and the family wants a nurse to come check them everyday. The family needs to be educated regarding their insurance benefits. Medicare guidelines do not allow for a friendly visit without a skilled need. Therefore, the nurse or PT needs to instruct a caregiver.

Cultural and Religious Aspects

- Literature and education on cultural diversity: possible language barriers

- In the home, you need to gain a patient’s confidence to influence changes.

- Dietary Issues

- Physical Activity

- Beliefs about pain and its significance
OBSTACLE OR CHALLENGE ???

- Who is the medical provider following the wound?
  Surgical wound….does the surgeon follow up on the progress of the wound?
- Is there a referral to the wound care center?
- Does the patient have a primary care provider?
- Does the patient have insurance? Who will pay for supplies?
- Is the treatment plan the best for homecare management?

Challenge: Co-Morbidities

- Diabetes
- Cardiac / PVD
- Obesity
- Malignancy
- Neurological condition
  - CVA, SCI
- Immobility
What diets are challenging?

- Diabetes
- Renal
- Cardiac
- Multiple co-morbidities are very common in the older population
- Obesity: Is there malnutrition despite increased weight?
- If there is no nutrient absorption, there is no healing potential

https://www.choosemyplate.gov/MyPlate-Daily-Checklist

CHALLENGE: Dehydration

Affects every organ in the body.

Poor fluid intake... weather changes
(heat with no air conditioning)....
leads to dehydration.

Then the patient is hospitalized, receives IV hydration and then is discharged home to the SAME environment.

If there are no changes in the treatment plan, the same cycle of events can continue and repeat again.
Obesity

- Is this a diagnosis?
- BMI > 25 - increased risk of Diabetes Mellitus Type 2, Cardiovascular Disease and Stroke
- Do we address this co-morbidity?
- Is physical therapy ordered after discharge?
- Is there an exercise plan in place?
  - Physical Activity Vital Sign (PAVS)
  - PAVS = # of minutes of exercise per day x # days/week
- Is behavioral health involved to help the patient cope with the lifestyle changes that are necessary for improving health and promoting wound healing?
- Is there a social work referral for those who do not have the resources to buy healthy food?

Are the Patients Ready to Change Their Ways?

- “In order to effectively teach
  you have to reach”
- ---Paula Erwin –Toth
Etiology Impacts The Wound Treatment Plan

OASIS C 2 Questions

<table>
<thead>
<tr>
<th>M1311</th>
<th>Current Number of Unhealed Pressure Ulcers at Each Stage</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1. Stage 2: Partial thickness loss of dermis presenting as a shallow open ulcer with red pink wound bed, without vough. May also present as an intact or open rupture/ulcer. Number of Stage 2 pressure ulcers [if 0 at FUDC Go to M1311B1]</td>
<td></td>
</tr>
<tr>
<td>A2. Number of these Stage 2 pressure ulcers that were present at most recent SOC/ROC – enter how many were noted at the time of most recent SOC/ROC</td>
<td></td>
</tr>
</tbody>
</table>

- Pressure Injury?
- Current number of Pressure ulcerations at each stage
OASIS C 2 Questions

M1313 Worsening Pressure Ulcerations

- Worsening pressure ulcerations
- Staging

<table>
<thead>
<tr>
<th>Instructions for a-c: Indicate the number of current pressure ulcers that were not present or were at a lesser stage at the most recent SOCR OC. If no current pressure ulcer at a given stage, enter 0.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Stage 2</td>
</tr>
<tr>
<td>2. Stage 3</td>
</tr>
<tr>
<td>3. Stage 4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Instructions for d: For pressure ulcers that are Unstageable due to slough/evulsion, report the number that are new or were at a Stage 1 or 2 at the most recent SOCR OC.</th>
</tr>
</thead>
<tbody>
<tr>
<td>d. Unstageable—Known or likely but Unstageable due to non-removable dressing</td>
</tr>
<tr>
<td>e. Unstageable—Known or likely but Unstageable due to coverage of wound bed by slough/evulsion</td>
</tr>
<tr>
<td>f. Unstageable—Suspected deep tissue injury in evolution</td>
</tr>
</tbody>
</table>

OASIS C 2

(M1340) Does this patient have a Surgical Wound?

<table>
<thead>
<tr>
<th>Enter Code</th>
<th>0</th>
<th>1</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>No [At SOC:ROC, go to M1350; At F/U/DC, go to M1400]</td>
<td>Yes, patient has at least one observable surgical wound</td>
<td>Surgical wound known but not observable due to non-removable dressing/device [At SOC:ROC, go to M1350; At F/U/DC, go to M1400]</td>
<td></td>
</tr>
</tbody>
</table>
Surgical Wounds Healing by Primary Intention

With permission by Lucia Allen

Surgical Wounds Healing by Secondary Intention

- Post-op or after a dehiscence
- Tx: Topical wound management / Negative Pressure Wound Therapy (NPWT)
- Possible use of abdominal binder
- Splinting
- Nutrition
Lower Extremity Ulcers: Venous Stasis Ulcers

- Daily compression wraps…. Are they necessary and is there sufficient arterial blood flow?
  - Ankle Brachial Index (best practice with Doppler)
- Who will learn the wrapping process? The wound needs treatment orders first, then the compression.
  - Proper wrap is from toes to below the knee.
- BEWARE of CHF patients. Wrap only 1 leg at time and assess for HF decompensation
  - Wrapping both legs increases risk of HF exacerbation
- Homecare instructs the caregiver, but this is not acute care.

Is this a covered skill?
Who can be taught application of ace wraps?
The Lymphedema Pump

- Models SC-3008 and SC-2004
  Sequential Circulator: Modisel is a gradient, sequential, pneumatic compression device, intended for the primary or adjunctive treatment of primary or secondary Lymphedema.
- The device is intended for alternate treatment of chronic venous stasis ulcers and associated venous insufficiency, as well as general treatment of swelling of the extremities.
- For acute care and homecare use

PRESSURE ULCERS/INJURIES

- NEW NPUAP GUIDELINES April 2016
- Stage 1
- Stage 2
- Stage 3
- Stage 4
- Unstageable
- MDRPI (Medical Device Related Pressure Injuries)
- MMPI (Mucosal Membrane Pressure Injury)
Staging Pressure Injuries

- ONLY Stage Pressure Injuries

- Leg Ulcers can be partial thickness or full thickness skin damage

NPUAP (National Pressure Ulcer Advisory Panel) 4/2016

- Pressure Injury: Localized damage to the skin and/or underlying soft tissue usually over a bony prominence or related to a medical or other device. The injury can present as intact skin or an open ulcer and may be painful. The injury occurs as a result of intense and/or prolonged pressure or pressure in combination with shear. The tolerance of soft tissue for pressure and shear may also be affected by microclimate, nutrition, perfusion, co-morbidities and condition of the soft tissue.

- Unstageable Pressure Injury: Obscured full-thickness skin and tissue loss
  ---the extent of tissue damage within the ulcer cannot be confirmed because it is obscured by slough or eschar. If slough or eschar is removed, a Stage 3 or Stage 4 pressure injury will be revealed. Stable eschar (i.e. dry, adherent, intact without erythema or fluctuance) on an ischemic limb or the heel(s) should not be removed.
**Stage 1 Pressure Injury**: Non-blanchable erythema of intact skin
Intact skin with a localized area of non-blanchable erythema, which may appear differently in darkly pigmented skin. Presence of blanchable erythema or changes in sensation, temperature, or firmness may precede visual changes. Color changes do not include purple or maroon discoloration; these may indicate deep tissue pressure injury.

**Stage 2 Pressure Injury**: Partial-thickness skin loss with exposed dermis.
The wound bed is viable, pink or red, moist, and may also present as an intact or ruptured serum-filled blister. Adipose (fat) is not visible and deeper tissues are not visible. Granulation tissue, slough and eschar are not present. These injuries commonly result from adverse microclimate and shear in the skin over the pelvis and shear in the heel. This stage should not be used to describe moisture associated skin damage (MASD) including incontinence associated dermatitis (IAD), intertriginous dermatitis (ITD), medical adhesive related skin injury (MARSI), or traumatic wounds (skin tears, burns, abrasions).

**Stage 3 Pressure Injury**: Full-thickness skin loss in which adipose (fat) is visible in the ulcer and granulation tissue and epibole (rolled wound edges) are often present. Slough and/or eschar may be visible. The depth of tissue damage varies by anatomical location; areas of significant adiposity can develop deep wounds. Undermining and tunneling may occur. Fascia, muscle, tendon, ligament, cartilage and/or bone are not exposed. If slough or eschar obscures the extent of tissue loss this is an Unstageable Pressure Injury.

**Stage 4 Pressure Injury**: Full-thickness skin and tissue loss with exposed or directly palpable fascia, muscle, tendon, ligament, cartilage or bone in the ulcer. Slough and/or eschar may be visible. Epibole (rolled edges), undermining and/or tunneling often occur. Depth varies by anatomical location. If slough or eschar obscures the extent of tissue loss this is an Unstageable Pressure Injury.
**Deep Tissue Pressure Injury**: Persistent non-blanchable deep red, maroon or purple discoloration. Intact or non-intact skin with localized area of persistent non-blanchable deep red, maroon, purple discoloration or epidermal separation revealing a dark wound bed or blood filled blister. Pain and temperature change often precede skin color changes. Discoloration may appear differently in darkly pigmented skin. This injury results from intense and/or prolonged pressure and shear forces at the bone-muscle interface. The wound may evolve rapidly to reveal the actual extent of tissue injury, or may resolve without tissue loss. If necrotic tissue, subcutaneous tissue, granulation tissue, fascia, muscle or other underlying structures are visible, this indicates a full thickness pressure injury (Unstageable, Stage 3 or Stage 4). Do not use DTPI to describe vascular, traumatic, neuropathic, or dermatologic conditions.

**Medical Device Related Pressure Injury**: This describes an etiology. Medical device related pressure injuries result from the use of devices designed and applied for diagnostic or therapeutic purposes. The resultant pressure injury generally conforms to the pattern or shape of the device. The injury should be staged using the staging system.

**Mucosal Membrane Pressure Injury**: Mucosal membrane pressure injury is found on mucous membranes with a history of a medical device in use at the location of the injury. Due to the anatomy of the tissue these injuries cannot be staged.
Diabetic Foot Ulcer

Does the patient know that they are diabetic?

New and old diabetics...all need teaching to promote wound healing!

Relieve pressure to site.

Diabetic Neuropathy
Lack of protective sensation

Challenge: Need for Debridement
Challenge: Options for Debridement of Necrotic Tissue??

- Consider alternatives to surgical debridement:
  - Mechanical: showering or wet to dry dressing
  - Autolytic: the body can respond to different products.
  - Enzymatic: Prescription topical agent

CHALLENGE:
Support Redistribution Surface

Hospital bed:
- Group I (APP Mattress or Gel Foam Overlay)
- Group II (Low Airloss Mattress Replacement)
- Not all equal
Support Surfaces

- **Wheelchair**: Does it have a solid seat insert and seat cushion?
  - Foam/Gel/Roho
  - Need to be ordered from **same vendor as wheelchair**
  - Must have wheelchair to get cushion from Medicare
  - **USE PILLOWS!!! WEDGES!! OFF-LOADING BOOTS!!**

DME CHALLENGE for PROPER SUPPORT REDISTRIBUTION SURFACE

- Need adequate documentation to determine if this is a covered expense.
- Is the patient incontinent? Can the patient self-turn? Is the patient malnourished? Are there existing ulcers? What stages? Where are they on the body?...only the trunk counts!!
- Every 5 yrs. Must come from same vendor as wheelchair.
Attention to Details

According to Medicare and the competitive bidding for a DME, an order for a Pressure Redistribution Surface/Hospital Bed/Seat Cushion/Wheelchair must be signed and dated by the physician and accompanied by proof of a FACE TO FACE Examination prior to the delivery of the equipment.

The signed Rx is needed prior to ordering item. The Rx must include why the item is medically necessary for the pt.

CHALLENGE: Incontinence

CAUTI Initiative is a national patient safety goal

In home care, some have urinary catheters and our infection rates are very low.

Treatment plan:
Gentle perineal cleansing and barrier creams.

Goal: Manage incontinence and avoid MASD

(Moisture Associated Skin Damage)
• Promote use of a commode, condom catheters, male/female urinals, timed voiding, clear pathways for ambulation to and from the bathroom/commode to avoid functional incontinence.
MASD (Moisture Associated Skin Damage)

- IAD
  (Incontinence Associated Skin Damage)
- Intertrigo
CHALLENGE: Educate the Patient and Caregiver

- Involve the patient and family members as early as possible. Instruct them in care.
- Explain what is affecting wound healing.
- Ask the patient to be involved…… Are they willing to change their diet? stop smoking? exercise?
- Is there a plan for incontinence management?
- Keep in mind…

- A surprise pressure ulcer is a set-up for a lawsuit.

Meeting Those Challenges
****SKIN****

..........IS THE LARGEST ORGAN OF THE BODY

Teach the patient and family members about this organ??

The Patient NEEDS:

- Safe, clean environment
- Caregiver
- DME: Bed/chair/proper support redistribution surface, commode, etc.
- Interdisciplinary team approach with a plan of care for wound management
- RESOURCES!!!
  - Food/Prescriptions
  - A support system at home
    - Possibility of positioning device for pressure relief/wound care
  - Transportation to the doctor or home visiting MD
WOUND CARE FORMULARY: a product in each category:
For example: Hydrogels, calcium alginate/hydrofiber, foams, silver/antimicrobial dressings, negative pressure wound therapy, etc.

Certain insurance carriers deny use of certain products. For example: Some silver dressings are denied by Medicaid.

Generic Wound Dressings

- Hydrogel
- Calcium alginate, hydrofiber
- Foams
- Hydrocolloids
- Antimicrobial silver dressings
- Combinations dressings
- NPWT
Writing Orders:

- Generic products
- Frequency of treatments
- Can the patient remove the old dressing and shower prior to wound care?

**NEED AN ORDER!!**

- All wound care is usually done with clean technique...must be written in order.

Wound Assessments

- Location: Proper anatomical site
- Measurements: Length x Width x Depth (cm)
- Must be done weekly or as clinically necessary
- Wound Base/Peri-wound
- Drainage
- Odor
- Pain
Don’t forget….

- Nutrition, vitamins and supplements.
- Does the patient follow the diet? The supplement is only as good as the one they swallow.
- Patient adherence counts. If the patient does not have a say in the treatment plan, it doesn’t work.
- Once treatment is ordered, the treatment starts when the supplies are available in the home. Interim orders are needed until all supplies are available.

Don’t despair…..

- If the goal is not to heal the wound, then consider palliative wound care.
- Decrease the frequency of dressing changes by using advanced wound care products that can provide topical management for an extended period of time.
- Refer to hospice those cases that are appropriate. We still provide wound care to hospice patients. Keep it palliative.
Identify high risk patients for skin breakdown

Braden Scale (shown below); Norton Scale
What do you see as the role of the physical therapist?............

you need to be familiar with your state practice guidelines
Case Study

- An 88 year old female has been admitted to the hospital with a fractured left elbow.
  - She is malnourished and weighs only 90 lbs.
  - She developed a sacral pressure injury which deteriorated and is now a stage 3, treated with calcium alginate and foam dressing 3 x week.
  - The family reports that the client eats less than 50% of her meals and has difficulty walking.
  - The client is anorexic and her skin is thin and soft. She is occasionally incontinent of urine.

- What places this patient at risk for skin breakdown?
- What are some interventions for this patient?
- What can you do to promote a positive outcome?

Questions????

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Ken Miller - Kenneth.miller.consultant@gmail.com
Twitter: @kenmpt
References

- National Pressure Ulcer Advisory Panel (2016). National Pressure Ulcer Advisory Panel (NPUAP) announces a change in terminology from pressure ulcer to pressure injury and updates the stage of pressure injury. Retrieved April 2016, from npuap@npuap.org