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# Pressure Ulcers: Prevention & Treatment

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### The Facts . . .

- ⇒ *Elders are at risk for pressure ulcer development.*
- ⇒ *Pressure Ulcers occur in any setting - acute care, long-term care and home care.*
- ⇒ *The prevalence of pressure ulcers in long term care ranges from 2.2% to 23.9%.*
- ⇒ *Cost to the United States is estimated to be greater than \$11 billion per year.*
- ⇒ *The truth is that most pressure ulcers are preventable.*

## Pressure Ulcers in a Long-Term Care Setting

Pressure ulcers are a significant issue in the long-term care setting. Most patients in long-term care who develop pressure ulcers will acquire the ulcer within 2 weeks of admission to the facility.

Residents who develop a pressure ulcer suffer higher mortality rates.

Pressure ulcers can range from a minor discomfort that heals quickly to a major life-threatening event. All caregivers should be aware of how to prevent and treat ulcers.

### Recommendations

The foundation of all pressure ulcer prevention and treatment programs is education of the resident, physician and nursing staff, and family so they can work together to achieve a common goal.

### Pressure Ulcer Prevention

Any resident who develops an upper respiratory infection, urinary tract infection, increased difficulty with blood sugar control, etc., may be at increased risk for skin breakdown.

Staff must be aware of this and increase surveillance and prevention interventions if these co-morbid conditions develop.

In addition, the following strategies can aid in the prevention of pressure ulcers in a long-term care setting:

#### 1. Identify those at risk by using a validated risk assessment tool, such as the Braden or Norton scale.

- Risk factors include:
  - ⇒ Immobility and decrease in physical activity
  - ⇒ Incontinence

- ⇒ Impaired sensory perception
  - ⇒ Inadequate nutrition
  - ⇒ Inability to change positions without sliding against bed or chair
- Risk assessment should be done regularly, paying particular attention to the first 4 weeks in the long-term care facility.
- #### 2. Inspect skin of at-risk patients on a regular basis, especially the following sites at highest risk for breakdown:
- Coccyx and sacrum
  - Heels
  - Trochanter
  - Ischium
  - Elbows
  - Any skin that is compressed between bone and another hard surface
- #### 3. Good skin care is vital to prevent skin breakdown.
- Use mild soap.
  - Avoid hot water.
  - Clean skin with each incontinent episode.
  - Minimize use of friction when cleansing.
  - Use appropriate absorbent products.
  - Protect skin from external moisture with barrier product.
  - Moisturize dry skin.
  - Avoid vigorous massage.
  - Limit exposure to cold.
  - Maintain adequate humidity in the room.
- #### 4. Maintain adequate nutrition.
- Check dentures to assure adequate fit.
  - Count calories to determine intake.
  - Use supplements to insure adequate intake of protein and calories.

## 5. Positioning and repositioning patients while in bed and in a chair must be done on a regular schedule.

- Use audio or visual turn cues/schedules.
- Residents at risk for development of pressure ulcers may require a pressure reduction surface both in bed and in the chair.
- Use pillows, blankets, turn wedges, etc. to help position residents.
- Keep residents' heels off beds by elevating calves on a pillow.
- Avoid the use of donuts.
- Turn residents 30° side-to-side rather than directly onto trochanter.
- Keep HOB at 30° or less if tolerated.
- Use lift devices to decrease friction and shear.
- Consult the table, **PRESSURE REDISTRIBUTION SURFACES**, to determine the appropriate pressure reduction surfaces.

### SOURCES:

1. WOCN Pressure Ulcer Guidelines, 2003
2. National Pressure Ulcer Advisory Panel Pressure Ulcer Prevention Points, 2006

## Pressure Ulcer Treatment

The goals of treatment are:

- ⇒ Identification of causes and contributing factors
- ⇒ Correction of causes, if possible
- ⇒ Prevention of further ulcers or deterioration of current ulcer
- ⇒ Healing of current ulcer

The activities identified as important in the prevention of pressure ulcers continue to be vital in pressure ulcer treatment.

### 1. Optimize resident's contributing factors

- Blood sugars
- Cardiac status
- Edema control
- Anemia
- Treatment of infections (i.e., UTI, URI)

### 2. Local impairments to wound healing

- Infection
- Necrotic debris
- Dry wound environment

### 3. Identification and treatment of infection

- Signs of infection
  - ⇒ Erythema
  - ⇒ Induration
  - ⇒ Purulent discharge
  - ⇒ Fever
  - ⇒ Elevated white count
- Use tissue biopsy or quantitative culture rather than swab culture.
- Systemic antibiotics are indicated only when systemic infection is present.
- Topical antibiotic TX is indicated when no improvement in the ulcer is noted after 2-4 weeks of optimal wound care.
- Rule out osteomyelitis if wound persists.

### 4. Debridement options for removal of necrotic debris

- Mechanic
- Sharp
- Enzymatic
- Autolytic
- Biological

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## 5. Topical treatment

- Dressings should maintain a moist environment.
- One type of moist dressing is not preeminent.
- Types of available dressings:
  - ⇒ Gauze
  - ⇒ Hydrogels
  - ⇒ Hydrocolloids
  - ⇒ Alginates
  - ⇒ Hydrofibers
  - ⇒ Composite dressings
  - ⇒ Film dressings
  - ⇒ Bioengineered dressings
  - ⇒ Growth factor topical treatment
  - ⇒ Antibiotic topical treatment
  - ⇒ Silver impregnated dressings
- Dressing choice should be individualized based on resident's needs, location of ulcer, ease of application and availability of dressing.
- Dressing characteristics:
  - ⇒ Maintains a moist environment
  - ⇒ Removes necrotic tissue
  - ⇒ Fills "dead spaces"
  - ⇒ Absorbs excess moisture
  - ⇒ Provides thermal insulation
- Products that can be cytotoxic to healthy tissue and should be avoided include:
  - ⇒ Betadine/iodine solution
  - ⇒ Acetic acid
  - ⇒ Hydrogen peroxide
  - ⇒ Dakin's

Remember that wounds are dynamic and require reassessment at regular intervals.

Topical therapy should reflect the current state of the wound and should be driven by the wound assessment.

## Pressure Redistribution Surfaces

Additional Information can be obtained from the National Pressure Ulcer Advisory Support Surface Initiative

[http://www.npuap.org/NPUAP\\_S3I\\_TD.pdf](http://www.npuap.org/NPUAP_S3I_TD.pdf)

Surfaces	Properties
<b>Foam</b>	<ul style="list-style-type: none"> <li>✓ May be open or closed cell, elastic or viscoelastic</li> <li>✓ Vast differences in price and effectiveness</li> <li>✓ Generally single patient use unless protected with moisture barrier covering</li> <li>✓ No set up required</li> <li>✓ No on going maintenance</li> </ul>
<b>Low Air Loss</b>	<ul style="list-style-type: none"> <li>✓ May be an overlay, mattress or total integrated bed system</li> <li>✓ Helps manage heat and humidity on the skin</li> <li>✓ Requires set up and monitoring to assure proper functioning</li> </ul>
<b>Alternating Pressure</b>	<ul style="list-style-type: none"> <li>✓ May be an overlay, mattress or total integrated bed system</li> <li>✓ Provides pressure redistribution in cycles</li> <li>✓ Requires set up and monitoring to assure proper functioning</li> </ul>
<b>Reactive Support Surface</b>	<ul style="list-style-type: none"> <li>✓ Changes pressure in response to patient load</li> <li>✓ Does not require set up or monitoring to assure proper functioning</li> <li>✓ Some types can be converted to powered to change pressures independent of the patient load</li> </ul>