

“WHERE DID THAT COME FROM?” REAL SOLUTIONS FOR PRESSURE SORES

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Definition

A pressure ulcer is localized injury to the skin and/or underlying tissue usually over a bony prominence, as a result of pressure, or pressure in combination with shear and/or friction. –NPUAP

Development of a Pressure Sore - Common Contributing Factors

- Lack of sensation
- Muscle atrophy - Paralysis - Spasticity helps
- Immobility - Pressure distribution/reduction and relief help
- Poor circulation - Elevation of the legs above the heart helps
- Incontinence - Proper bowel and bladder programs help
- Poor nutritional status - Increase in calories (especially protein) helps
- Systemic disease such as diabetes, cancer

Common Problems Lead to Pressure Sores

- Pressure
- Moisture
- Cut - Scratch
- Shearing - Friction
- Scarring
- Bug bite, Pimple
- Cellulitis – Edema

Pressure Sore Staging

Stage 1

Intact skin with non-blanchable redness of a localized area usually over a bony prominence. Darkly pigmented skin may not have visible blanching; its color may differ from the surrounding area.

Stage 2

Partial thickness loss of dermis presenting as a shallow open ulcer with a red pink wound bed, without slough. May also present as an intact or open/ruptured serum-filled blister.

Heel Blister

Stable (dry, adherent, intact without erythema or fluctuance) eschar on the heels serves as "the body's natural (biological) cover" and should not be removed.

Stage 3

Full thickness tissue loss. Subcutaneous fat may be visible but bone, tendon or muscle are not exposed. Slough may be present but does not obscure the depth of tissue loss. May include undermining and tunneling.

Stage 4

Full thickness tissue loss with exposed bone, tendon or muscle. Slough or eschar may be present on some parts of the wound bed. Often include undermining and tunneling.

Unstageable

Cannot determine the stage when full thickness tissue loss in which the base of the ulcer is covered by slough (yellow, tan, gray, green or brown) and/or eschar (tan, brown or black) in the wound bed.

Common Locations of Pressure Sores

Sacrum, Heel, Ischium, Foot (bony areas like the ankle), Trochanter
Other areas can include
Elbows, forearms, Scapula, Back of thighs, Bottom of feet, Hands, Back of head

Causes of Shear or Friction

- Unstable/unbalanced posture - Sliding
- Transfers
 - Tires
 - Tub/shower tracts
 - Bath benches
 - “Slide” boards (best to call transfer board)
 - Vehicle seats

Rules to Protect Against Pressure, Friction & Shear in the Wheelchair.

- Accommodate/reduce deformities - Position to prevent shearing
- Perform Pressure relief q/15 min x 1min 40 sec - Independently
- Use Pressure and shear reducing materials
- Maximize surface contact area - contour
- Reduce moisture and high temperatures in sitting
- Postural stability is critical

Balance is Key - Must be Balanced for:

- Stability > Freedom to move
- Once we are stable and have the freedom to move we are balanced
- Balance comes from
 - Support surface
 - Position in space

Postural Connections - Influences

- The head /UE's - the goal
- The spine - positions the head/UE's
- The sacrum - influences the spinal alignment
- The hips - position the sacrum by influencing the pelvis
- The feet - position the legs, affecting the pelvis, the spine, the head & the shoulders

Deformities can be

- Flexible > Correct
- Fixed > Accommodate
- Flexible correction not tolerated > Correct to balanced function only then accommodate

Pelvis/Spinal Deformities

- Posterior pelvic tilt/Kyphosis - SLIDING
- Anterior pelvic tilt - Lordosis
- Pelvic obliquity - Scoliosis
- Pelvic rotation - Rib hump

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Pressure Relief

- Every 15-20 minutes for 1min 40sec while in wheelchair
- Often need tilt and recline for full offloading
- Pressure mapping can help a wheelchair rider know what to do to get a full pressure relief
- Over time this will become second nature and movement strategies will develop

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Seating Materials

- Basic types of materials
 - Solids
 - Foam
 - Gel
 - Fluids
 - Air
 - Water
 - High Viscous Fluids
 - Mixture of Air and Foam
 - Other

Cushion Solutions

Rules to Protect Against Pressure, Friction & Shear in Bed

- Reposition every 2hrs
- Keep bony prominences from direct contact with each other
- Lowest head elevation
- No greater than 30 degrees
- Pressure reduction beds as needed

Other surfaces can cause pressure sores.
And often do!

References

NPUAP (National Pressure Ulcer Advisory Panel)

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National Pressure Ulcer Advisory Panel; <http://www.npuap.org/>

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Speaker Bio

Jill has been teaching continuing education coursework in seating and mobility in the US and internationally since 1995. She has 23 years of experience working with people with severe disabilities as a Physical Therapist, seating and mobility specialist, coach/classifier for wheelchair sports, and as an advocate in her community. Jill is currently a faculty member and the director of the seating clinic at MUSC.