Prevention and Treatment of Pressure Ulcers: Quick Reference Guide
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Source: National Pressure Ulcer Advisory Panel (NPUAP)

The intent of this guide was to develop evidence based recommendations for the prevention and treatment of pressure ulcers that could be used by health professionals throughout the world. When direct observation wasn’t available or conclusive, a consensus voting process (GRADE) was used to assign a strength to each recommendation which in turn can be used to assist in prioritizing pressure ulcer related interventions.

**Strengths of Recommendation**

- 🌟🌟🌟 Strong positive recommendation: Definitely do it
- 🌟🌟 Weak positive recommendation: Probably do it
- 🌟 No specific recommendation

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**Risk Factor Assessment**

- 🌟🌟 Consider bedfast and/or chairfast individuals to be at risk of pressure ulcer development
- 🌟🌟🌟 Consider the impact of mobility limitations on pressure ulcer risk

Mobility and activity limitations can be considered a “necessary condition” for pressure ulcers (P.U.) development. In the absence of these conditions other risk factors should not result in a P.U. Note that I have read contradictory information which says that a resident is at risk during a lengthy operation or bed stay (while ambulatory).

- 🌟🌟🌟 Consider individuals with an existing PU (any stage) to be a risk of additional pressure ulcers.

**Factors Effecting an Individuals risk of P.U. Development**

- • Perfusion and Oxygenation
- • Poor Nutritional Status
- • Increased Skin Moisture
Other Factors Effecting and Individual Risk of P.U. Development

- Increased Body Temperature
- Advanced Age
- Sensory Perception
- Hematological Measures
- General Health

There is evidence that stage 1 (redness) P.U.'s are under detected in individuals with darkly pigmented skin. When assessing a patient assess the following areas: Sacrum, Ischia Tuberosities, Greater Trochanters and Heels. Note: Elbows, Shoulder Blades, Ears is not mentioned.

Skin and Tissue Assessment

Include the following factors in every skin assessment
- Skin Temperature
- Edema
- Change in tissue consistency in relationship to surrounding tissue

Preventive Skin Care

Avoid positioning the individual on an area of erythema

Erythema is an infection that results in a mild rash on the face, trunks and limbs. Erythema is caused by a parvovirus B19 infection. Since this is caused by a virus, antibiotics are ineffective in the treatment.

Avoid positioning the individual on an area of erythema whenever possible

Keep the skin clean and dry

Protect the skin from exposure to excessive moisture with a barrier product in order to reduce the risk of pressure damage. Moisture may increase the risk of pressure ulceration.

Emerging Therapies for Prevention of Pressure Ulcers

Consider the need for additional features such as the ability to control moisture and temperature when selecting a support surface.

The use of specialized surfaces that come into contact with the skin may be able to alter the microclimate by changing the rate of moisture evaporation and the rate of skin heat transfer. The above is also applicable to the cushion cover.

Do not apply heating devices directly on skin surfaces or pressure ulcers. Heat increases the metabolic rate, induces sweating and decreases the tolerance of the tissue for pressure.

Fabrics and Textiles

Consider using fabrics (covers) that reduce shear and friction.
Repositioning and Early Mobilization

Reposition all individuals at risk of, or with existing pressure ulcers, unless contra-indicated.

Determine Repositioning Frequency with Consideration to the Individual

- Tissue Tolerance
- Level of activity & mobility
- General medical condition
- Skin Condition
- Comfort

Teach individuals to do pressure relief lifts or other pressure relieving manoeuvres.

Avoid positioning the individual on bony prominences with existing non-blanchable erythema

Avoid subjecting the skin to pressure and shear forces

Use manual handling aids to reduce friction and shear lift, don’t drag the individual while repositioning.

Repositioning Individuals in Bed

Use the 30° tilted side-lying position (alternately right side, back, left side) or the prone position if the individual can tolerate this and his/her medical condition allows.

Encourage individuals who can reposition themselves to sleep in a 30° to 40° side lying position or flat in bed if not contraindicated.

Limit head of bed elevation to 30° for an individual on bed rest unless contraindicated by medical condition or feeding and digestive consideration.

Repositioning Seated Individuals

Position the individual so as to maintain stability and his or her full range of activities.

Ensure that the feet are properly supported either directly on the floor, on a foot stool or on footrests when seated.

If the individuals feet cannot be positioned directly on a foot surface then the footrest and seat cushion should tilt the patient with the thighs slightly lowered.

No support surface provides complete pressure relief continue to turn and reposition the individual regardless of the support surface in use. Establish turning frequency with consideration to the individual.

Persons who already have pressure ulcers, consider bed rest to relieve ischial and sacral healing

If sitting in a chair is necessary for individuals with pressure ulcers on the sacrum/coccyx or ischia, limit sitting to three times a day in periods of 60 minutes or less.

Avoid seating an individual with an ischial ulcer in a fully erect posture.
The Following Devices Should Not Be Used To Elevate Heels

- Synthetic sheepskin pads
- Cutout, ring or donut type devices
- Fluid bags
- Water filled gloves

Increase activity as rapidly as tolerated.

Repositioning to Prevent and Treat Heel Pressure Ulcers

Ensure that the heels are free of the surface of the bed

The knee should be in slight (5° to 10°) flexion

There is indirect evidence that hyperextension of the knee may cause obstruction of the popliteal vein and this could predispose an individual to deep vein thrombosis (DVT).

Use a foam cushion under the full length of the calves to elevate heels.

For category, stage 3 or 4 and unstageable pressure ulcers, place the leg in a device that elevates the heel from the bed surface, completely off-loading the pressure ulcer, consider a device that also prevents foot drop.

Support Surfaces

Continue to reposition individuals on a pressure redistribution support surface.

Do not use small cell alternating pressure air mattresses or overlays.

Alternating pressure air mattresses with small air cells (diameter < 10cm) cannot be sufficiently inflated to ensure pressure relief over the deflated air cells. There is insufficient evidence on which to base definitive recommendations for using one surface over another.

Seating Support Surfaces

Select a stretchable/breathable cushion cover that fits loosely on the top surface of the cushion and is capable of conforming to the body contours

Assess the cushion and cover for heat dissipation.

Cushion construction achieves pressure redistribution in one of the two ways: Immersion/Development or Redirection/Off-loading. Select a cushion that effectively redistributes the pressure away from the pressure ulcer.
Assessment

Inspect the skin under and around medical devices at least twice daily for signs of a pressure related injury.

Document the results of all wound assessments.

Use a lift or transfer sheet to minimize friction and/or shear when repositioning an individual, keeping bed linens smooth and unwrinkled.

Avoid postures that increase pressure, such as Fowlers position greater than 30° or 90° side lying position, or the semi-recumbent position.

Individuals in the Operating Room

Use heel suspension devices that elevate and off-load the heel completely in such a way as to distribute the weight of the leg along the calf without placing pressure on the achilles tendon.

Positioning the knees in slight flexion prevents popliteal vein compression and decreases the risk of perioperative DVT.

Position the individual in a different posture pre-operatively, post operatively than the posture used during surgery.

Spinal Cord Injury

Select a pressure redistribution cushion that:
- Provides contour, uniform pressure distribution, high immersion or off-loading.
- Promotes adequate posture and stability
- Permits air exchange to minimize temperature and moisture at the buttock interface
- Has a stretchable cover that fits loosely on the top cushion surface and is capable of conforming to the body contours.

Use variable - position seating (tilt in space, recline, and standing) in manual or power wheelchairs to redistribute load off of the seat surface.

Additional Recommendations

Avoid seating and individual with an ischial ulcer in a fully erect posture in chair or bed. The ischia bear intense pressure when the individual is seated.