



PRESSURE ULCERS

April 7, 2015

Pressure ulcers are often preventable; however if not cared for they can have devastating effects which includes death.

The terms decubitus ulcer, bed sore, and pressure ulcer often are used interchangeably. Pressure ulcers are caused by unrelieved pressure over a defined area, usually over a bony area, resulting in decreased or loss of blood flow to the area. This causes the skin and tissue to die.

Redness of the skin is usually the first evidence of the beginning stages of a pressure ulcer performing. It is important to take prompt action if this occurs.

Prevention

Prevention is possible and is of critical importance.

A simple prediction rule, based on five (5) characteristics, may help identify individuals who are at **increased risk for pressure ulcer** and in need of **preventive measures**.

- Age – older people have fragile skin- they are more vulnerable
- Weight – very thin or very heavy individuals are more vulnerable
- Abnormal appearance of the skin – thin or fragile skin, makes people more vulnerable
- Friction and shear – moving individuals with materials such as sheets causes friction, sheering and rubbing of the skin and makes people more vulnerable.
- Planned surgery in the coming week- or any reason that creates a decrease in mobility increases vulnerability.

Assessment Tool

A systematic assessment of pressure ulcer risk can be accomplished by using an assessment tool such as the Braden scale or the Norton scale.

Prime candidates for pressure ulcers include:

- Elderly persons
- Persons who are chronically ill (e.g., those with cancer, stroke, or diabetes).
- Persons who are immobile (e.g., as a consequence of fracture, arthritis, or pain).
- Persons who are weak or debilitated.
- Persons with altered mental status (e.g., from narcotics, anesthesia, or coma).
- Persons with decreased sensation or paralysis.

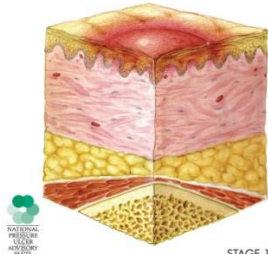
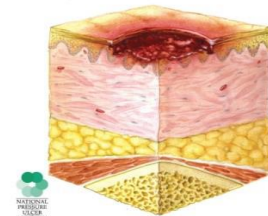
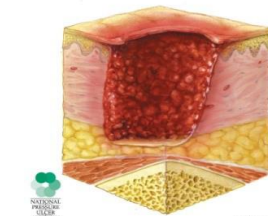
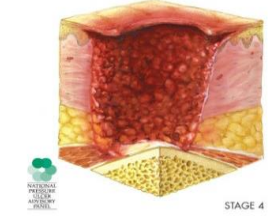

Secondary factors: Illness or debilitation increases pressure ulcer formation; fever increases metabolic demands; predisposing ischemia (decreased blood supply to area); diaphoresis skin maceration; incontinence causes skin irritation and contamination; and other factors, such as edema, jaundice, pruritus, and xerosis (dry skin)



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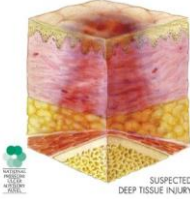
Pressure ulcer staging

Pressure ulcers can range from mild reddening of the skin, severe tissue damage and sometimes infection. Below is a chart of pressure sores throughout the four stages.

Stage	Description	Illustration
Stage I	At the beginning stage of a pressure sore, the skin is not broken but it appears red on people with lighter skin color, and the skin doesn't briefly lighten (blanch) when touched. On people with darker skin, the skin may show discoloration, and it doesn't blanch when touched. The site may be tender, painful, firm, soft, warm or cool compared with the surrounding skin.	 <p>STAGE 1</p>
Stage II	The outer layer of skin (epidermis) and part of the underlying layer of skin (dermis) is damaged or lost. The wound may be shallow and pinkish or red and it may look like a fluid-filled blister or a ruptured blister.	 <p>STAGE 2</p>
Stage III	The ulcer is a deep wound. The loss of skin usually exposes some fat. The ulcer looks crater-like. The bottom of the wound may have some yellowish dead tissue. The damage may extend beyond the primary wound below layers of healthy skin.	 <p>STAGE 3</p>
Stage IV	A stage IV ulcer shows large-scale loss of tissue. The wound may expose muscle, bone or tendons. The bottom of the wound likely contains dead tissue that's yellowish or dark and crusty. The damage often extends beyond the primary wound below layers of healthy skin.	 <p>STAGE 4</p>
Un-stageable	A pressure ulcer is considered unstageable if its surface is covered with yellow, brown, black or dead tissue. It's not possible to see how deep the wound is.	 <p>UNSTAGEABLE</p>



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<p>Deep tissue injury</p>	<p>The skin is purple or maroon but the skin is not broken. A blood-filled blister is present. The area is painful, firm or mushy. The area is warm or cool compared with the surrounding skin. In people with darker skin, a shiny patch or a change in skin tone may develop.</p>	

Interventions for minimizing risk

- Reduction of pressure
- Adequate debridement of necrotic and devitalized tissue
- Control of infection
- Meticulous wound care

Plan of Care

Effective prevention of pressure ulcers depends on a comprehensive care plan that includes strategies and practices aimed at reducing or eliminating the risk of ulceration. Elements of such a plan may include the following:

- The first step in healing a pressure ulcer is determining the cause (i.e., pressure, friction, or shear).

Turning and repositioning the individual remains the cornerstone of prevention and treatment.

Individuals who are able to shift their weight every 10 minutes should be encouraged to do so.

Repositioning should be performed every 2 hours, even on a specialty surface or bed.

- Positioning- It is essential to establish a regimen in which pressure is completely relieved on all areas of the body at regular intervals. Individuals who are bedbound should be positioned at a 30° angle when lying on their side. **Avoid sliding the individual over a surface to prevent friction.** Positioning devices such as pillows or foam wedges (not donut-type devices) should be used to prevent direct contact between bony body parts (e.g., knees and ankles).
- Pressure reduction may be achieved by using specialized support surfaces for bedding and wheelchairs that can maintain tissue pressure less than 32 Hg (the standard threshold value for evaluating support surfaces)
- Appropriate bed positioning - Individuals can benefit from lying prone; shearing forces can be minimized by keeping the head of the bed lower than 45°.
- Skin care - Remove skin secretions and excretions; avoid hot water; use nonirritating, nondrying skin-cleansing agents; use moisturizers and topical agents such as moisture barriers; and keep sheets dry and wrinkle-free.
- Stay alert for skin changes that might indicate an impending breakdown (e.g., redness of the skin that blanches on application of digital pressure), particularly in elderly or immune compromised individuals.**
- Control spasticity and prevent contractures



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- Nutritional status should be evaluated to ensure adequate intake of calories, proteins, and vitamins. Malnutrition is one of the few reversible contributing factors for pressure ulceration, and establishing adequate caloric intake has been shown to improve healing of pressure ulcers.
- Wound care. Once a pressure ulcer has formed, the wound and surrounding intact skin must be kept clean and free of urine and feces through frequent inspection, and cleansing.
- Evaluate urinary or fecal incontinence. Potentially reversible causes should be identified and treated. Urinary incontinence secondary to urinary tract infection (UTI) should be treated with antibiotics. Fecal incontinence secondary to diarrhea may be related to an infectious cause (e.g. *Clostridium difficile*).
- Other important considerations include cessation of smoking, adequate pain control, maintenance of adequate blood volume, and correction of anemia, the primary aims of which are to prevent vasoconstriction in the wound and to optimizing the oxygen-carrying capacity of the blood.
- Manual disimpaction and the addition of stool bulking agents to the diet may relieve overflow fecal incontinence. Urinary or fecal incontinence with no treatable cause may be minimized by establishing a bowel and bladder regimen.
- Diapers and incontinence pads may be useful absorbing moisture away from the surface of the skin, provided that they are checked regularly and changed when soiled. If used inappropriately, these products may actually aggravate maceration and result in dermatitis. A bladder catheter or (in males) a condom catheter may be used to control urinary incontinence.
- Infection- Bacterial contamination must be assessed and treated appropriately. Differentiation of infection from simple contamination through tissue biopsy helps ensure that antibiotics are used only in cases of actual infection and, ideally, helps minimize the development of resistant species. Antibiotics also are indicated when accompanying osteomyelitis, cellulitis, bacteremia, or sepsis is present.

Documentation

All interventions should be documented, including who should provide the care, how often it should be provided, and the supplies and equipment needed.

How the care is to be undertaken should be individualized.

Results of the interventions and the care being provided should be documented. Documentation of the plan of care should be clear, concise, and accessible to every caregiver. Education of caretakers is also essential.

Source: National Pressure Ulcer Advisory Panel

Updated: November 2016