

Statement on Pressure Ulcer Prevention 1992

FOREWORD

Millions of dollars are spent annually on pressure ulcer prevention and management. An effective national approach to pressure ulcer prevention will help to meet the National Pressure Ulcer Advisory Panel's (NPUAP) goal of reducing pressure ulcer incidence by 50% by the year 2000. This monograph is designed to assist clinicians with pressure ulcer prevention.

The Agency for Health Care Policy Research, Public Health Service, U.S. Department of Health and Human Services, is developing a set of clinical practice Guidelines with the intent of assisting health care providers and patients to determine appropriate care for specific clinical conditions. The guideline on pressure ulcer prevention, *Pressure Ulcers in Adults: Prediction and Prevention*, was released May 18, 1992. A guideline for detecting and treating urinary incontinence was released earlier in 1992. A guideline on treatment of pressure ulcers is currently being developed. The AHCPR clinical practice guidelines are written by private-sector, multidisciplinary panels of experts. Several members of the NPUAP served on the AHCPR pressure ulcer prevention guideline panel.

In March, 1991, the NPUAP also conducted the first public critique of the proposed AHCPR pressure ulcer prevention guideline. The dissemination of guidelines for the effective prevention and management of pressure ulcers is a goal of the NPUAP. The NPUAP presents this monograph as an interpretation and summary of the AHCPR Clinical Practice Guideline *Pressure Ulcers in Adults: Prediction and Prevention*. A concise summary of specific AHCPR recommendations for pressure ulcer prevention is presented in Table 1.

INTRODUCTION

PRESSURE ULCERS are defined as localized areas of tissue necrosis that develop when soft tissue is compressed between a bony prominence and an external surface for a prolonged period of time.

These wounds have been referred to by many names, including

- Decubitus ulcers
- Bedsores
- Pressure sores
- Dermal ulcers
- Pressure ulcers

Because pressure is the critical factor in the development of these wounds, the term "pressure ulcer" is recommended to describe these lesions.

Early intervention is designed for patients at increased risk for pressure ulcer development. The principle components of early intervention are:

- Identification of at-risk individuals who need preventive interventions and of the specific factors that place them at risk
- Maintenance and improvement of tissue tolerance to injury
- Protection against the adverse effects of pressure, friction, and shear
- Reduction of the incidence of pressure ulcers through educational programs

Most pressure ulcers are preventable. However, in some cases it is unrealistic, and may even be in conflict with the overall plan of care or patient directives for a terminally ill patient, to subject the patient to aggressive preventive measures. Pressure ulcers can be an indication of the multi-system failure that accompanies the terminal stages of many disease processes. In these cases, patient comfort should be the primary goal.

Pressure ulcer incidence has been used as an indicator of the quality of patient care. It is important that incidence and prevalence of pressure ulcers be differentiated.

Incidence refers to the rate at which new cases occur in a population over a given time period, such as the number of new cases per year among the patients at a long term care facility.

Prevalence refers to the number of both new and old cases at any one time in the population, such as the proportion of patients in a long term care facility with pressure ulcers on a specified day--a cross-sectional view of the problem.

Because patients may develop pressure ulcers in one health care facility and then be transferred to another facility, the incidence of new pressure ulcers is a more appropriate criterion to use for quality of care assessment.

RISK ASSESSMENT

Pressure ulcer risk assessment requires a comprehensive approach including skin assessment and evaluation of factors most commonly reported to be associated with pressure ulcer development

- Immobility
- Inactivity
- Nutritional factors
- Fecal and urinary incontinence
- Decreased sensory perception

Individuals may have multiple conditions that increase their susceptibility to pressure ulceration.

Pressure ulcer risk assessment must be done systematically. An assessment tool that is validated for a specific type of patient population is recommended. There are several published pressure ulcer risk assessment instruments including the:

- Braden Scale
- Gosnell Scale
- Norton Scale

Patients must be assessed for pressure ulcer risk on admission to any health care agency and reassessed periodically as their condition changes.

INTERVENTION

When assessment identifies pressure ulcer risk before there is overt evidence of pressure-induced injury, interventions can be implemented to reduce the risk.

Skin Care

Healthy skin is clean and well-hydrated. Dry skin is evidenced by roughness and scaling.

Skin should be washed with warm water, using a mild cleansing agent to minimize excessive dryness.

Excessive friction and scrubbing are contraindicated.

Cleansing must be done at each time of soiling and at intervals consistent with good hygiene.

Non-alcohol based moisturizing agents are recommended.

Although it is important to cleanse and moisturize all skin surfaces, aggressive massage has been shown to cause tissue damage, and must be avoided. Massage over bony prominences is especially likely to cause additional injury to pressure-damaged skin.

Ideally, temperature and humidity should be maintained at levels that minimize damage to the patient's skin, such as MACERATION, cracking, or decrease in blood flow to the skin.. Heat lamps should be avoided because they increase local tissue temperature and metabolic demands, dry the tissue, and may be a safety hazard.

It is important to prevent mechanical injury to the skin from friction and shearing forces during repositioning and transfer activity. The key is to have a sufficient number of personnel available to move patients. Assistive devices such as lift sheets, trapezes, transfer boards, or mechanical lifts may be useful adjunctive devices to minimize tissue injury. Mechanical injury from friction can be reduced with dry lubricants, such as cornstarch, or application of barrier dressings such as TRANSPARENT FILMS and HYDROCOLLOIDS.

Pressure Reduction

Intervention to reduce pressure over bony prominences are of primary importance. Immobile patients need to be maintained in proper alignment. Attention must be focused on maintaining and/or enhancing functional ability. If not medically contraindicated, activity regimens may include physical therapy and/or occupational therapy.

A turning schedule must be established for patients who are confined to bed.. Data do not indicate how often patients should be turned to prevent ischemia of soft tissue, but two hours in a single position is the maximum duration of time recommended for patients with normal circulatory capacity.

For positioning, the "rule of 30" is used. This means that the head of the bed is elevated to 30 degrees or less (Figure 1) and the body is placed in a 30-degree laterally inclined position, when repositioned to either side (Figure 2).

[Figures 1 and 2 adapted from J. Maklebust. Pressure ulcer update. RN, December 1991, pages 56-61. Original illustration by Jack Tandy. Used with permission.]

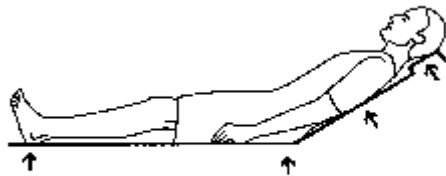


Figure 1

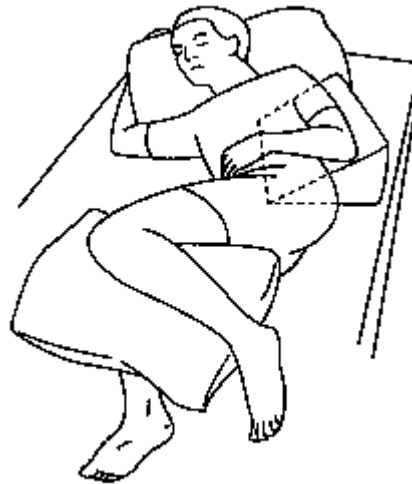


Figure 2

If the head of the bed is elevated (e.g., for eating, watching television) beyond 30 degrees, the duration of this position needs to be limited to minimize both pressure and shear forces. In the 30 degree laterally inclined position, the patient's hips and shoulders are tilted 30 degrees from supine and pillows or foam wedges are used to keep the patient properly positioned without pressure over the trochanter or sacrum. If tolerated, the prone position may also be used.

Based on the patient's risk and mobility status, pressure reducing **MATTRESS OVERLAYS** or **MATTRESS REPLACEMENT UNITS** may need to be employed. Health care agencies must have support surface protocols that describe the specific product(s) recommended and the indications for each. Pillows and cotton blankets are simple devices that are readily available for pressure reduction. When used judiciously, they expand the weight-bearing surface by molding to the body. Pillows under the calf may be used to elevate the patient's heels off the bed surface.

Cushioning devices should be placed between the legs/ankles to maintain alignment and prevent apposition of bony prominences. Commercially available pressure-reducing mattresses include:

- Foam
- Static air
- Alternating air
- Gel
- Water

A small percentage of patients may need support surfaces with greater ability to reduce pressure, shear, friction, and moisture. These products may include:

- Low air loss
- Air-fluidized support surfaces

Patients who are chair bound for long periods of time need appropriate seating surfaces, capable of safely reducing pressure while still providing adequate stability and support. Areas at particularly high risk in the seated person include:

- Ischial tuberosities
- Thoracic spine
- Feet
- Heels

Donut cushions are to be avoided because they can cause tissue ischemia. Selection of customized chair cushions requires the services of a qualified seating specialist.

For those patients who are temporarily chair bound, consideration should be given to cushions that furnish maximum pressure reduction over the ischial tuberosities, adequate support, and comfort. Proper body alignment is essential for chair bound patients. Patients who are able must be instructed to reposition themselves at 15-20 minute intervals. Patients who have sufficient upper body strength should be taught to do wheelchair push-ups.

Nutrition

Nutrition is important for maintaining tissue integrity. Sufficient nutrients for individual needs must be available. Indicators of impaired nutritional status include:

- Rapid weight loss
- Inadequate intake
- Decreased serum albumin/transferrin

For patients with inadequate nutritional intake, strategies must be employed to increase oral intake. Patients must have diets prescribed with protein and caloric content sufficient to meet metabolic needs (this assumes that there are no medical contraindications for doing so). Dietary consultation is indicated for nutritional evaluation. The diet prescription should consider patient preferences and special needs, such as a dental soft diet for an edentulous patient. Assistance with meals may include opening food containers, elevating the head of the bed to allow the patient to eat or be fed, providing an environment conducive to eating and allowing sufficient time and assistance for optimal oral intake.

When, despite these measures, patients are unable to consume adequate amounts of nutrients, tube feeding or parenteral alimentation should be considered. Patient and family preferences and the overall goals of treatment should guide these decisions.

Incontinence

Patients who are incontinent of urine and/or feces must have an adequate evaluation to identify whether reversible causes exist. Reversible causes include:

- urinary tract infection
- medications
- confusion
- fecal impaction
- polyuria due to glycosuria or hypercalcemia
- restricted mobility due to restraints

A bowel training program must be instituted for spinal cord injury patients. Further evaluation and intervention should be considered if consistent with the patient's overall treatment goals. Preventing maceration of skin by managing excessive moisture can be achieved through cleansing at appropriate intervals and the use of skin barriers and absorbent materials. Briefs, diapers, or absorbent underpads may be used if they are of the type that "wick" moisture away from the patient.

EVALUATION AND DOCUMENTATION

The effectiveness of skin protection measures for high-risk patients must be evaluated as appropriate for the individual's condition and setting.

Adjustments in preventive measures should be made as needed. Development of Stage I pressure ulcer(s) (NON-BLANCHABLE ERYTHEMIA) is an indication for intensifying interventions, such as

- more frequent repositioning,
- use of topical skin management agents and/or dressings,
- and the use of pressure reducing devices

Documentation must be done at regular intervals and should include:

- risk assessment
- skin evaluation
- therapies designed to maintain intact skin
- patient response to alterations in therapy,
- the rationale for the alteration(s)
- the outcome of the skin care program

EDUCATION OF CAREGIVERS: PATIENTS AND FAMILIES

Responsibility for pressure ulcer prevention is shared by physicians, nurses, enterostomal therapy nurses, physical and occupational therapist, nutritionists, pharmacists, administrators, patients, and patients' families. Education of these groups is an important aspect of pressure ulcer prevention. Toward that end, appropriate educational programs that provide current research-based information should be offered at periodic intervals.

Educational programs for health professionals must include:

Characteristics of normal, healthy skin

Elements of skin assessment

Characteristics of tissue deformation (tissue performance under mechanical loading)

Role of nutrition in pressure ulcer prevention

Pressure ulcer risk factors

Research-based risk assessment tools and their selection for specific populations

Etiology and staging of pressure ulcers

Proper techniques for turning, positioning, and repositioning

Indications and limitations of pressure-reducing devices/support surfaces

Indications and limitations of friction reducing products

Documentation of skin assessment and skin care program, including outcomes

Programs presented for patient and/or family must include:

Etiology of pressure ulcers

Inspection of skin

Protection of skin

Proper, safe cleansing techniques and agents

Reduction of pressure ulcer risk

Role of nutrition in pressure ulcer prevention

Need for position changes

Proper/correct positioning techniques.

Proper use of pillows and/or other pressure reducing devices.

Skin and other health status changes to be reported to health care professionals.

CONCLUSION

Adherence to the principles in this monograph will help to prevent pressure ulcer development in most high-risk patients. The NPUAP believes that pressure ulcers are a major health problem, and recommends that health care professionals adopt the following:

Prevention is the best solution to the pressure ulcer problem.

Pressure ulcer prevention alleviates needless human suffering and unnecessary health care costs.

Responsibility for pressure ulcer prevention is shared by health care professionals, bedside caregivers, patients, and families.