Pressure Ulcers

The prevention and treatment of pressure ulcers presents risk management challenges in all healthcare settings. Not all pressure ulcers are preventable, but the development or worsening of some pressure ulcers raises concerns about quality of care and heightens a facility’s risk of being sued for negligence.

The high prevalence and severity of risks associated with pressure ulcers in terms of human suffering, time demands, treatment cost, and potential legal ramifications—combined with expected success in prevention and treatment programs—makes pressure ulcers a prime area for risk management intervention.

What HRC Found

Healthcare facilities that implement risk control plans for pressure-ulcer prevention can reduce the incidence of pressure ulcers among patients. Risk control plans should include identifying patients at risk for pressure ulcers; systems for documenting the existence of a pressure ulcer, the treatments applied, and the improvement or worsening of the ulcer; systems for monitoring patients with or at risk for pressure ulcers; pressure ulcer prevention methods; and educational programs for staff, patients, and family members.

Supplementary Material

- Table: Skin-Breakdown Risk Assessment
- Resource List
- Appendix A: Sample Policy on Pressure Ulcer Assessment, Prevention, and Treatment
- Appendix B: Pressure Ulcer Scale for Healing (PUSH) Tool
- Appendix C: Sample Policy on Photographing Wounds
- Appendix D: High-Tech Beds and Mattress Overlays: A Decision Guide

See page 18 for more Action Recommendations.

Key Recommendations

- Remain knowledgeable about changing standards of care based on government and professional association standards, case law, and regulations.
- Develop and implement a risk control plan for your facility.
- Select and implement a validated risk assessment tool.
- Ensure that nurses and aides receive training on patient lifting and repositioning.
- Teach caregivers how to spot early signs of skin breakdown and how to report these signs.
- Conduct audits to ensure that facility policies are followed consistently.

See page 18 for more Action Recommendations.

Route To:

- Central sterile processing
- Materials management
- Medical staff coordinator
- Nursing
- OR/surgery

For more tools on this topic see the HRC Members’ Web site at http://www.ecri.org.
The prevention and treatment of pressure ulcers presents risk management challenges in all healthcare settings. Standards-setting organizations, including the Agency for Healthcare Research and Quality (AHRQ) and the American Medical Directors Association (AMDA), have developed and revised clinical practice guidelines for the treatment and prevention of pressure ulcers. These guidelines provide valuable information for physicians, nurses, risk managers, and clinical specialists to use in collaborating on ways to prevent and treat pressure ulcers.

Many patients may be prone to pressure ulcers because of comorbidities, mental impairment, immobility, incontinence, and other functional dependencies. Not all pressure ulcers are preventable, but the development or worsening of some pressure ulcers raises concerns about quality of care and heightens a facility’s risk of being sued for negligence. One important consideration for healthcare facilities discussed in this Risk Analysis is documentation; staff should not document a patient’s skin condition as a pressure ulcer until a specific clinical diagnosis has been made.

The high prevalence and severity of risks associated with pressure ulcers in terms of human suffering, time demands, treatment cost, and potential legal ramifications—combined with expected success in prevention and treatment programs—makes pressure ulcers a prime area for risk management intervention. Indeed, the prevention and management of pressure ulcers is a priority for all healthcare settings. This Risk Analysis reviews the causes of pressure ulcers, helps facilities assess and identify individuals at risk for developing pressure ulcers, provides advice on prevention, and includes several tools that risk managers can use and adopt for their facilities.

Causes and Complications
Pressure ulcers are also known as pressure sores, bedsores, decubitus ulcers, and tissue trauma. Regardless of terminology, these skin lesions result when an individual’s weight is continuously exerted against a bed, wheelchair, or other surface or when there is an external source of pressure (e.g., shoes, splints) that interrupts normal capillary blood flow to tissues. Cellular metabolism depends on blood circulation to deliver nutrients to body tissues and remove waste products. Thus, when circulation is continually diminished over an extended period of time, tissue death (necrosis) often occurs and pressure ulcers develop, especially in the soft-tissue areas overlying hard, bony prominences.

Healthy people constantly shift their weight and change body position, even when asleep, thereby preventing tissue damage. But individuals with temporarily or permanently limited mobility cannot change positions, leaving them vulnerable to pressure ulcers. In fact, immobile individuals have a 100% chance of developing pressure ulcers without some form of intervention.1

Friction and shear contribute to the development of many pressure ulcers. Friction occurs when a person’s skin repeatedly rubs against a resistant surface, such as a bedsheet. Friction also results when a patient is pulled from one side of a bed to another (e.g., during transfers or position changes). Shear, a combination of static friction and pressure, causes skin to slide or be pulled from its normal resting position. Constant shear causes a hazardous capillary blood-flow compromise to the same extent as prolonged high pressure. Shear frequently occurs when the upper portion of a bed is elevated and the individual slides toward the foot of the bed or when a person is seated in a chair but then slumps or slides downward. These forces create both friction and pressure on bony prominences.

Other factors that affect the development of pressure ulcers include the individual’s primary medical condition (e.g., diabetes mellitus, peripheral vascular disease, cerebrovascular disease, hypotension), nutritional status, hydration level, duration of immobility, continence level, mental state, weight, and age.
The complications of pressure ulcers include infection, osteomyelitis, and sepsis (which is associated with an average mortality rate as high as 50%). Overall, individuals with pressure ulcers have two to six times as great a risk of death as those without pressure ulcers.²

**Pressure Ulcers: Costs and Prevalence**

Despite education and preventive efforts, pressure ulcers continue to be a serious and pervasive, as well as costly, problem among patients in all healthcare settings and among community-living elderly.¹,³,⁴,⁵ An estimated 1.3 to 3 million adults have a pressure ulcer, with an estimated cost of $500 to $40,000 to heal each ulcer.⁶ The U.S. healthcare system spends more than $1 billion annually to treat pressure ulcers.⁷

A study of pressure-ulcer prevalence and incidence rates in acute care facilities from 1999 to 2004 indicates that pressure-ulcer prevalence varied from 14% to 17% and that the incidence of pressure ulcers ranged from 7% to 9% over the six-year period.⁸ Some data indicates that pressure-ulcer prevalence rates among hospitalized patients are not decreasing. The International Pressure Ulcer Prevalence study—sponsored annually by Hill-Rom (Batesville, Indiana)—found a 7.7% prevalence rate of facility-acquired pressure ulcers in U.S. hospitals in 2004 compared to 7.1% prevalence in 1999.⁹ The study also found that pressure ulcers are most common among patients in intensive care units (ICUs); pressure-ulcer prevalence is 29.1% in medical ICUs, 21.0% in surgical ICUs, 23.0% in general ICUs, and 24.8% in transitional care units.

Another recent study evaluated Medicare data for U.S. hospitals from 2000 to 2002 to identify incidents related to AHRQ’s list of patient safety indicators, defined as “potentially preventable patient safety incidents.”¹⁰ Of 1.14 million patient safety incidents in 37 million hospitalizations, decubitus ulcers had one of the highest incidence rates (30 per 1,000 hospitalizations), along with failure to rescue and postoperative sepsis. Decubitus ulcers also accounted for the highest excess inpatient cost ($2.57 billion) among hospitals in the study.

About 70% of pressure ulcers occur in people over age 65.¹¹ In long-term care facilities (i.e., skilled nursing facilities and nursing homes), as many as one-quarter of all residents may experience pressure ulcers.¹² Estimates of overall pressure-ulcer prevalence in nursing homes range from 1.2% to 28%.¹³

**Home Health**

The incidence of pressure ulcers among home healthcare patients is ≤17%.¹⁴,¹⁵ A key difficulty in the community setting is the healthcare provider’s lack of control of the patient, family, or caregiver’s compliance with recommendations on pressure-ulcer prevention. This is an important performance-monitoring and risk management issue for home health services, underscoring the need to document not only prescribed treatments, but also the training of family caregivers and/or the patient by home health professionals. Any educational materials that home health professionals review with the patient or family should be noted in the patient’s record.

**Medical-Legal Issues**

A patient’s development of a pressure ulcer while under the care of a healthcare provider is increasingly being viewed as grounds for a professional liability lawsuit. The 1987 Omnibus Budget and Reconciliation Act (OBRA) and its accompanying regulations established federal quality-of-care standards for nursing homes, with specific provisions for the prevention and treatment of pressure ulcers (see “Special Issues for Long-Term Care Providers” for more information on regulatory issues in the long-term care setting). The existence of such detailed requirements may make it easier for plaintiffs to prove that providers were negligent with regard to pressure-ulcer treatment and other areas of care. Indeed, there have been media reports of plaintiffs being awarded up to $65 million from healthcare providers in cases involving pressure ulcers.¹⁶

The mere existence of a pressure ulcer is often viewed as physical evidence of medical negligence (i.e., failure to meet recognized standards of care). This position is bolstered in part by the high level of success demonstrated by aggressive preventive measures targeting skin breakdown. It is not difficult for a plaintiff’s attorney to demonstrate to a lay jury that a pressure ulcer is not an overnight occurrence but rather the result of caregiver negligence over time. In addition, pressure-ulcer incidence is usually associated with a strong emotional component—in terms of the patient’s family and the jury—that makes defending pressure-ulcer medical malpractice actions very difficult and may expose the defendant to punitive damages.

The following litigation cases involved the development of pressure ulcers in healthcare settings.

**Case 1.** Los Angeles County jurors awarded more than $12 million to a 62-year-old long-term care patient.
facility resident who required leg amputation after a pressure ulcer on his heel became infected. The resident’s attorneys alleged that facility staff members did not take steps to relieve pressure, such as placing a cushion under his heel, and that the facility failed to provide 3.2 hours of nursing care per resident per day as required by California law. The facility’s own documentation showed that the facility often did not meet the requirement, the resident’s attorneys said.

According to the facility’s attorney, nonnursing staff members who were qualified to care for residents often provided resident care, but they could not be counted toward the state’s resident-to-nurse ratio requirement. The facility also argued that the resident developed the pressure ulcer before admission and that he had frequently refused treatment for pressure ulcers from physicians at other institutions before entering the facility. However, the jury decided in favor of the resident.

### Special Issues for Long-Term Care Providers

Risk managers with responsibility for long-term care units or facilities should be aware of federal regulations and survey procedures addressing the prevention and treatment of pressure ulcers in these environments.

The federal standard for long-term care providers with respect to pressure ulcers is articulated in the Omnibus Budget and Reconciliation Act of 1987 (OBRA), as follows:

Based on the comprehensive assessment of a resident, the facility must ensure that

- a resident who enters the facility without pressure sores does not develop pressure sores unless the individual’s clinical condition demonstrates that they were unavoidable and
- a resident having pressure sores receives necessary treatment and services to promote healing, prevent infection, and prevent new sores from developing.

The implementing regulations and interpretive guidance provided by the Centers for Medicare & Medicaid Services (CMS) to its facility inspectors provide additional details on how OBRA will be enforced for pressure-ulcer assessment, prevention, and management. Depending on the nature of any deficiencies found during an inspection, CMS has the authority to fine the nursing home, deny payment, and, if the nursing home does not correct the problem, terminate its participation in the Medicare program.

### CMS Tag 314

The particular procedures that surveyors follow to assess compliance with OBRA provisions on pressure ulcers are described in Tag F314 in Appendix PP of the State Operations Manual. This guidance was updated and reissued in November 2004; the updated guidance replaces that previously issued by CMS. The 2004 guidance includes definitions of clinical terms related to pressure ulcers (e.g., avoidable and unavoidable pressure ulcers, cleansing and irrigation, debridement) and provide more comprehensive and detailed information on pressure-ulcer development and requirements. For example, CMS states that residents sitting in wheelchairs with sling seats for long periods of time may be at greater risk of developing pressure ulcers. Consequently, the guidance gives surveyors more direction and may increase long-term care facilities’ risks for deficiency citations.

### Nursing Home Compare

As required by federal law, a resident’s skin condition is documented in CMS’s resident assessment instrument as part of the minimum data set, which must be completed for every nursing facility resident.

Risk managers should be aware that CMS is using data from its nursing home inspections to provide information about individual nursing homes to the public. Two of the 12 quality indicators for this program, called Nursing Home Compare, provide data on the percentage of residents with pressure ulcers. Nursing Home Compare also looks at the percentage of short-stay residents with pressure ulcers. More information about Nursing Home Compare is available online at http://www.medicare.gov/NHCompare/home.asp.

### Notes

of the resident, finding the facility 90% responsible. The resident was awarded $747,097 in compensatory damages and $12 million in punitive damages.

Case 2. An Ohio skilled nursing facility failed to provide adequate care to prevent pressure ulcers in several residents and paid a civil monetary penalty totaling $10,500 as recommended by the Centers for Medicare & Medicaid Services (CMS) for noncompliance. During a random survey, investigators from the Ohio Department of Health determined that five residents had pressure ulcers that could have been prevented with proper skin care and use of pressure-relieving devices. The surveyors observed that four of the residents were not given pressure-relieving devices, although their care plans indicated that these devices were to be used. Another resident, who was extremely obese and required continence care and assistance for bed positioning, did not have her urine-soaked linens changed for at least two hours, and surveyors found a pressure ulcer on her right buttock.

On appeal, the facility disputed the findings of noncompliance, arguing that the state surveyors had erroneously labeled some of the wounds as pressure ulcers and that other pressure ulcers were medically unavoidable. However, the court disregarded these arguments, stating that whether the residents’ wounds were technically pressure ulcers was immaterial and that the facility had still breached the standard of care by not providing pressure-relieving devices to residents whose care plans called for their use. The court also noted that according to the record, the facility did not treat one resident’s “unavoidable” pressure ulcer until 10 days after the ulcer was discovered. Regarding the care of the extremely obese resident, the facility argued that it was impossible to prevent minor pressure ulcers from developing due to friction caused by rolls of fat and the resident’s immobile condition. However, the facility did not dispute the fact that this resident remained in urine-soaked bed linens for up to two hours and had been served breakfast during this time. The court stated that this fact demonstrated that the resident received below-standard care and affirmed the civil monetary penalty.

Corporate Compliance and the False Claims Act

In addition to OBRA, other federal initiatives have affected providers’ liability related to pressure ulcers. The U.S. Department of Health and Human Services’ (DHHS) Office of Inspector General (OIG), the Department of Justice (DOJ), and CMS have been focusing efforts and resources on quality of care in all healthcare settings.

For example, OIG’s corporate compliance guidance for nursing facilities states that a facility’s commitment “to providing the care and services necessary to attain or maintain the resident’s highest practicable physical, mental and psychosocial well-being” should be affirmed in its compliance policies. One of several special areas of concern that OIG identified as a quality-of-care risk area is “inappropriate or insufficient treatment and services to address residents’ clinical conditions, including pressure ulcers, dehydration, malnutrition, incontinence of the bladder, and mental or psychosocial problems” [emphasis added].

Healthcare facilities without corporate compliance programs risk violating federal fraud and abuse statutes and can face prosecution by OIG and DOJ under the False Claims Act (FCA). They also risk exclusion from Medicare and Medicaid programs. These penalties are based on the government’s premise that claims submitted by a facility for services provided that were not in compliance with federal and state laws and regulations are viewed as being false claims.

A precedent-setting false claims case was United States v. GMS Management-Tucker, Inc., et al. In the 1996 case, the U.S. Attorney’s Office invoked FCA, alleging inadequate quality of care, when it filed suit against a long-term care facility and its management company. The complaint alleged inadequate provision of nutrition and wound care to three former residents of the nursing home. FCA was invoked in conjunction with the nursing home reform provisions of OBRA to remedy the provision of inadequate care that was paid for with government funds. The case resulted in a $600,000 settlement that included a consent order aimed at ensuring adequate care in the future. Among the provisions in the consent order entered into by the long-term care facility and its management company were the following:

- Implementation of a nutritional monitoring and quality assessment program
- Provision of wound care in accordance with AHRQ guidelines
- Training of nursing home staff on nutrition and wound care requirements
- Monitoring by the U.S. Attorney’s Office regarding compliance with the consent order
- Filing of a report to the government on all nutritionally compromised or at-risk residents for a period of at least one year
This case had dramatic implications for long-term care facilities because it enabled the federal government to bring FCA charges against providers for filing claims for services that they did not provide and for providing inadequate care that could not be billed to the Medicare and Medicaid programs. Hospitals and other healthcare facilities are not immune from this application of FCA to their operations.

**Risk Control Plan**

A 2000 study of 173 lawsuits related to patients’ development of pressure ulcers in healthcare facilities identified common factors that resulted in favorable decisions for healthcare provider defendants. These factors include documentation in the medical record that the standard of care for pressure ulcers was followed, verification in the record of any underlying disease and complications that made the development of pressure ulcers inevitable, and adherence to comprehensive programs to prevent and treat pressure ulcers.22

Healthcare facilities should have a risk control plan for pressure-ulcer prevention and management that includes the following:

- A method of identifying residents at risk for pressure ulcers
- A system for documenting the existence of a pressure ulcer, the treatments applied, and the improvement or worsening of the ulcer (e.g., flow sheets)
- Performance monitoring and evaluation systems for patients with pressure ulcers or patients identified as at risk of developing pressure ulcers
- Prevention protocols designed to maintain skin integrity in all patients (e.g., nursing policies and procedures regarding repositioning, bed-to-chair transfers, nutrition, and hydration)
- Educational programs for pressure-ulcer prevention aimed at healthcare providers, patients, and family members or other caregivers

One facility’s policy for pressure-ulcer prevention and treatment is reprinted in Appendix A. It includes a policy for assessment of patients at risk for pressure ulcers.

Sample facility assessment checklists on screening patients for pressure-ulcer risk; implementing a pressure-ulcer care plan; assessing and reassessing patients for pressure ulcers; preventing, monitoring, and treating pressure ulcers; reviewing pressure-ulcer policies; and developing staff training and education programs are also available from CMS’s Medicare Quality Improvement Community (MedQIC) Web site at http://www.medqic.org. MedQIC is an online resource providing healthcare quality improvement information; additional tools and resources related to pressure ulcers are also available on the site.

**Patient Risk Assessment**

As part of the Joint Commission on Accreditation of Healthcare Organizations’ (JCAHO) 2006 National Patient Safety Goals (NPSGs) for long-term care, Goal 14 states that facilities should prevent the development of pressure ulcers, assess and periodically reassess each resident for pressure-ulcer risk, and properly address any identified risks.23 JCAHO included pressure-ulcer prevention as a proposed 2007 NPSG under Goal 15, a general goal for identifying resident safety risks, for hospitals, critical-access hospitals, and long-term care facilities.24 Although the goal was not approved for hospitals and critical access hospitals for 2007, JCAHO still emphasizes that pressure-ulcer prevention is an important issue for all healthcare facilities and may consider including the goal for these healthcare sites in the future.25 Preventing pressure ulcers remains an NPSG for long-term care.

Care plans can be developed at the time of admission to target individual risk factors for pressure-ulcer development and direct preventive measures and treatments.

Assessing patient risk for pressure ulcers is the first step in prevention. Careful identification of patients most likely to develop pressure ulcers will allow for quick intervention and effective use of available resources, such as staff time and equipment. As previously stated, immobile patients are at increased risk of developing pressure ulcers. Therefore, identifying bedridden or chair-bound patients is critical to determining who is at risk of developing pressure ulcers.

In 1992, the Agency for Health Care Policy and Research—now AHRQ—developed clinical practice guidelines on the prediction and prevention of pressure ulcers, recommending that individuals be assessed upon admission to acute care and rehabilitation hospitals, nursing homes, home care programs, and other healthcare facilities and periodically thereafter using a validated risk assessment tool (see Risk Assessment Scales below).26

Although AHRQ’s guidelines were released in 1992, they remain the standard from which other
organizations and facilities build their own pressure-ulcer guidelines, and studies indicate that compliance with AHRQ's guidelines can significantly reduce the prevalence of pressure ulcers among patients. AHRQ's 1994 guidelines on the treatment of pressure ulcers are also still valid. Both sets of guidelines are available for download from the AHRQ Web site at http://www.ahrq.gov/clinic/cpgonline.htm. In addition, a quick-reference guide to AHRQ's 1992 guidelines on pressure-ulcer prediction and prevention is reprinted along with this Risk Analysis in the Nursing section of the Healthcare Risk Control (HRC) System. Additional standards and guidelines are noted in the Resource List in this Risk Analysis.

Care plans can be developed at the time of admission to target individual risk factors for pressure-ulcer development and direct preventive measures and treatments. Reassessment intervals will vary by setting and by patient. One guideline suggests that in addition to being assessed upon admission, patients be reassessed every 48 hours for the first week, weekly for one month, and then quarterly, or more frequently if their condition changes. Reassessment is also required if individuals become bed- or chair-bound or if they develop difficulty with repositioning.

Changes in a patient’s or resident’s condition after admission can cause the risk for pressure-ulcer development to increase from low to moderate or even high. Patient assessments should be performed by an interdisciplinary team that includes (if possible) representatives from rehabilitative therapy, an occupational therapist, an infection control practitioner, a physician, a nurse, a nursing assistant, a wound care specialist, and a registered dietician. In addition to assessing the patient, these professionals can help teach prevention strategies to caregiving staff (e.g., physical therapists can teach positioning and transfer techniques).

Nursing assistants are in the best position to recognize the early signs of a developing pressure ulcer and to report them to supervisors. For example, the individual who commonly bathes a patient might be the first to notice early signs of skin breakdown. Early recognition may prevent ulcer progression (see “Pressure Ulcers: Tips for Caregivers” for caregiver tips on the warning signs of pressure ulcers and action steps to help those at risk of developing pressure ulcers). This is particularly important because nonlicensed individuals are increasingly providing direct care to patients and residents in all healthcare settings.

Facility administrators can encourage staff to report the early signs of skin breakdown by developing a nonpunitive culture in which staff are encouraged to report such events without fear of retribution.

**Staff shortages.** The prevention and management of pressure ulcers is recognized as a time-, cost-, and labor-intensive task that requires multiple, specially trained healthcare personnel, adding stress to already strained resources. Nursing staff shortages are common throughout healthcare facilities. Registered and licensed practical nurses, as well as nursing assistants, are in high demand and scarce supply. Many facilities, including hospitals, skilled nursing facilities, nursing homes, rehabilitation centers, and home health agencies, are being forced to operate with less-than-optimal staff levels.

Studies have demonstrated that a reduction in available nursing staff is directly related to an increase in adverse patient events, including the development of pressure ulcers. Consequently, some facilities are using wound and ostomy nurses as leaders of wound management and skin-integrity teams to provide guidance and assistance to clinical and nursing staff in caring for patients who are identified as being at risk for skin breakdown or who already have pressure ulcers.

**Risk Assessment Scales**

More than 100 risk factors for pressure ulcers have been identified in the clinical literature. Given the large number of risk factors, providers rely on risk assessment scales to predict an individual’s risk of developing pressure ulcers. AHRQ recommends selecting and using a method that will ensure systematic evaluation of individual risk factors. The Norton and Braden scales are among the most widely used and have received the most extensive validation testing. The Norton scale assesses five clinical categories: a patient’s activity level, mobility, mental status, physical condition, and incontinence. The Braden scale assesses six clinical factors: activity, dietary intake, friction and shear, mobility, sensory perception, and skin moisture. Both scales appear in “Pressure Ulcers in Adults: Prediction and Prevention,” reprinted in the Nursing section of the HRC System. The scales are also available at http://www.medqic.org; facilities can fill out a permission form to use the Braden tool.

Another risk assessment tool used by a Pennsylvania nursing home is reprinted in “Skin-Breakdown Risk Assessment.” The tool, which is a modified version of the Braden scale, identifies whether an individual has a low, moderate, or high risk of developing a
Pressure Ulcers: Tips for Caregivers

The following warning signs of and action steps for pressure ulcers were developed by the Centers for Medicare & Medicaid Services for healthcare facilities to provide to caregivers. Caregivers should be aware of the importance of early notification of appropriate medical personnel at the first signs of skin abnormalities.

Warning Signs

The following are some signs that a patient or resident may be at risk for or suffer from pressure ulcers:
- The patient/resident
  - is subject to incontinence;
  - needs help
    — turning in bed,
    — changing positions when sitting, or
    — moving his or her arms, legs, or body;
  - exhibits weight loss;
  - eats less than half of meals/snacks served;
  - exhibits dehydration; or
- has discolored, torn, or swollen skin over bony areas.

Action Steps

Below are some action steps caregivers can take to help patients or residents who are at risk for or suffer from pressure ulcers:
- Report observations and warning signs to the nurse and dietitian.
- Check and change linens as appropriate.
- Handle/move the patient/resident with care to avoid skin tears and scrapes.
- Reposition the patient/resident frequently and properly.
- Adopt measures to ensure that the patient/resident gets more calories and protein.
- Adopt measures to ensure that the patient/resident gets more to drink.
- Record intake of meals/snacks.


Ongoing documentation of pressure-ulcer prevention and treatment is crucial for effective risk and quality management. AHRQ’s 1994 pressure-ulcer treatment guidelines state that “clinicians can reasonably expect a clean pressure ulcer with adequate innervation and blood supply to show evidence of healing within 2 to 4 weeks. Failure to do so should prompt a reevaluation of the plan of care, an evaluation of adherence to the plan, and a possible modification of the plan.”35

Risk managers should ensure that an adequate process exists and is being followed for documenting pressure-ulcer prevention and treatment. Such documentation should include the following:
- Pressure-ulcer stage (see Staging below)
- Dates and times when assessments and reassessments are performed
- Changes in the patient’s care plan as a result of reassessments
- Specific preventive measures taken
- Procedures to manage pain related to pressure ulcers
- Treatments performed, including the date, time, and name of the person performing the treatment
- Any worsening of the patient’s condition that could affect the healing process

Case studies of liability claims involving pressure ulcers show that documentation is often inadequate,
making defense especially difficult. The following two cases are illustrative.

Case 1. A 25-year-old quadriplegic patient developed a sacral pressure ulcer during a week of hospitalization. The ulcer required extensive treatment with repeated grafting over several months. A claim filed against the hospital alleged failure to assess, prevent, and adequately treat the ulcer. It was further alleged that the nursing staff failed to follow physician orders and hospital protocols on the prevention and treatment of pressure ulcers in paralyzed patients. Despite physician orders to turn the patient every 2 hours, the medical record did not indicate that staff repositioned the patient off her back for at least 48 hours after admission. In addition, both the physician progress notes and nurses’ notes lacked a description of skin breakdown. The claim was settled during trial, with the patient receiving a $150,000 indemnity payment.

Case 2. A 60-year-old patient with multiple medical problems underwent 12-hour vascular reconstruction of the right leg. Shortly after the procedure, sacral pressure areas were noted. Despite treatment, these areas progressed to severe necrosis, resulting in below-the-knee amputation and debridement with grafting of the sacral ulcer. The patient alleged negligence in positioning during surgery, which resulted in severe sacral decubiti that necessitated prolonged hospitalization and additional surgery. A review of the medical record revealed a lack of documentation by the surgeon, anesthesiologist, and the operating room (OR) nursing staff regarding the patient’s increased risk for skin breakdown. Although serious...
skin breakdown may not have been preventable, documentation of heightened awareness by staff, as well as preventive measures, and a description of the patient’s skin postsurgery may have made it easier for the hospital to defend the case. The OR nursing documentation lacked information on the condition of the patient’s skin and the padding used to position the patient on the OR table. Nursing documentation for the night shift during the immediate postoperative period lacked an observation of the condition of the patient’s back or the efforts made to reposition the patient. The patient received a $100,000 indemnity payment and later sought additional compensation.

**Forms**

The outcome of a negligence or malpractice claim involving pressure ulcers might depend on where the pressure ulcer developed or worsened (e.g., whether it was present upon admission to the facility or developed during the patient’s stay). Many healthcare facilities find that documenting the presence and severity of pressure ulcers in new patients is an essential component of a wound protocol as well as a good risk management practice. A pressure ulcer may have developed at home or at another institution from which the patient was transferred. Detailed, descriptive documentation of any pressure ulcers found at the initial assessment could prove extremely important if subsequent litigation arises.

Skin-condition records or flow sheets can be used to document information such as the location of the ulcer, when it was first seen, and descriptive factors that include its size, stage, and color. This documentation, which is filed in the patient’s chart, facilitates communication between nurses as well as among nurses and physicians.

A sample documentation form, called the Pressure Ulcer Scale for Healing (referred to as the PUSH tool), is reprinted in Appendix B. It was developed by the National Pressure Ulcer Advisory Panel (NPUAP), a nonprofit organization dedicated to the prevention and management of pressure ulcers, and is among the most widely used instruments of assessing the healing of pressure ulcers.36

Proper identification of the wound is as important as documentation. Staff should determine whether the patient’s ulcer is actually the result of pressure. Nursing personnel are often quick to label a skin ulcer or blister as a pressure ulcer. There are other etiologies for skin breakdown or ulceration, such as arterial circulatory problems, venous hypertension, and diabetes.37 Staff should be trained to recognize the different types of ulcers, as well as the implications and complications of each type, since proper diagnosis affects the care rendered and the ultimate treatment outcome.

**Staff should be trained to recognize the different types of ulcers, as well as the implications and complications of each type.**

Specific definitions of pressure ulcers and clinical terms related to pressure ulcers are available in the CMS State Operations Manual (Appendix PP, Tag F314). This document outlines procedures that surveyors follow to assess compliance with OBRA provisions on pressure ulcers. Although the guidance is specific to long-term care facilities, hospitals and other healthcare facilities may find the definitions and other information useful for preventing and treating pressure ulcers in the acute care environment. In addition, CMS revised Tag F309 to include specific definitions of wounds and other non-pressure-related sores (arterial, venous, and diabetic ulcers as well as other wounds) so that healthcare staff can distinguish pressure ulcers from other types of wounds. Staff should be cautioned to objectively describe the wound when documenting it but not to document the type of ulcer (e.g., pressure ulcer) until a specific clinical diagnosis has been made.

The headings on forms can also play a role in whether facilities are held liable for a patient’s wound. Even if the patient’s wound is not a pressure ulcer, documenting the patient’s condition on a form labeled “Pressure Sore Assessment” may create difficulties for a facility defending its position in a lawsuit.38

**Photographs**

Many facilities have wound documentation policies that include taking photographs upon patient admission, discharge, or transfer. Also, AMDA’s guidelines for pressure-ulcer prevention and treatment suggest that photos taken on a weekly basis may be helpful in documenting and monitoring the progress of wound care.39 Use of a photography system with high-definition grid film is recommended for consistency and accuracy to demonstrate and track the size of the wound.

Use of digital photography is recommended by NPUAP for pressure-ulcer documentation. NPUAP strongly discourages use of digital photography with...
a density of less than 1.5 megapixels and recommends a density of 3 megapixels or greater because this density provides the best ratio of picture clarity to equipment cost. NPUAP also states that facilities sharing digital images or video using e-mail should have policies in place to ensure compliance with HIPAA (Health Insurance Portability and Accountability Act of 1996) regulations for privacy.

Because digital images can be modified and the accuracy and integrity of the image may be questioned, digital photographs are not allowed as evidence in court cases. Therefore, facilities may want to use a more permanent type of film if only photographing pressure ulcers upon patient admission to the facility.

CMS, in its guidance to surveyors of long-term care facilities, discusses photographs used to support documentation of the location and staging of pressure ulcers and notes that if digital images, rather than film images, are used, there must be means to ensure that the images are accurate and are not modified. CMS also notes that facilities intending to use photographs to support documentation should have a protocol in place that is consistent with accepted standards (e.g., regarding frequency, consistent distance from the wound, type of equipment used, and inclusion of patient identification/ulcer location/dates within the photographic image). The photos should not show other parts of the patient’s body that would personalize the photo or identify the patient.

The issue of whether to photograph skin wounds, however, has been somewhat controversial, with some risk management experts and healthcare attorneys advising against taking photographs of pressure ulcers and including them with the patient’s chart. This is because the photos will become part of the patient’s record and would be subject to discovery if a lawsuit ensued. Some defense attorneys point out that pressure-ulcer photos blown up on a large screen in the courtroom are extremely graphic and evoke emotional responses from jurors. Others believe that photographs are—first and foremost—very important to providers managing the pressure ulcer and, thus, to patient care.

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The photography protocols should be consistent with the facility’s other policies regarding medical photography and videotaping, and they should be reviewed by the facility’s legal counsel. Refer to “One Facility’s Approach to Pressure-Ulcer Risk Management” to see how one healthcare system handles this issue. The facility’s policy on photographs of all types of wounds is reprinted in Appendix C.

Staging
Pressure ulcers are commonly described in four stages, ranging from a persistent area of redness (stage I) to full-thickness skin loss with exposed muscle and/or bone (stage IV). These stages are described in many sources, including the AHRQ guidelines (the guidelines, “Pressure Ulcers in Adults: Prediction and Prevention,” are reprinted elsewhere in this section of the HRC System).

In February 2005, NPUAP organized a consensus forum and developed white papers to address issues related to staging of pressure ulcers and to determine whether the current staging system is accurate. For example, current staging guidelines define stage I ulcers as areas of redness on the surface of the skin that can be reversible with treatment; however, clinical experience has indicated that some stage I ulcers become full-thickness lesions even after treatment. As of mid-2006, NPUAP was seeking clinical feedback on the white papers. Healthcare staff should still refer to the current staging guidelines but should be aware that alterations to staging of pressure ulcers may be made in the future. Staff should include detailed descriptions of the ulcer during assessments to supplement staging information.
Preventive Measures

AMDA’s guidelines for pressure-ulcer prevention and treatment list several steps to preventing pressure ulcers, including the following:

- Ensure adequate nutrition and hydration.
- Ensure proper positioning to alleviate pressure over bony prominences and shearing forces over heels, elbows, the base of the head, and ears.
- Reposition every two hours when patients are in bed and every hour when they are in a chair, if they are alert and capable. Teach capable patients to shift weight every 15 minutes while in a chair.
- Use appropriate position devices and foam padding; do not use doughnut-shaped devices.
- Avoid placing the patient on his or her trochanters or directly on the wound.
- Use lifting devices such as draw sheets or a trapeze.
- Try to prevent contractures.
- Do not massage reddened areas over bony prominences.
- Maintain personal hygiene.

Additional preventive tips for caregivers are described in “Pressure Ulcers: Tips for Caregivers.” Issues related to repositioning and support services are discussed in more detail below.

Repositioning

Frequent turning and repositioning of the individual is the most common and low-tech method of pressure reduction. Failure to reposition patients is often an element in allegations of negligent care when pressure ulcers develop.

A turning schedule of at least once every two hours for bed-bound patients and once every hour for chair-bound patients is optimal, particularly for those identified as being at risk of developing pressure ulcers. Individual factors may require more frequent turning intervals, particularly if the patient is lying on a standard mattress. Other, less frequent intervals have been adopted when they are combined with other measures, such as use of pressure-reducing mattresses. Chair-bound patients who are able to reposition themselves...
should be taught to shift their weight every 15 minutes.

Written repositioning schedules are useful to ensure that the necessary repositioning is done as prescribed and to serve as documentation of this measure to prevent pressure ulcers. Caregivers should carefully document repositioning as well as the use of any type of special bed or other device.

Nurses, aides, and other caregivers need special training in proper patient turning and repositioning to avoid sustaining back injuries.

Most healthcare facilities have nursing policies and procedures that specifically address the importance of repositioning patients. However, direct caregivers do not always realize that under certain circumstances, ulcers can form in less than one hour. Repositioning immobile patients places a heavy burden on overextended nursing personnel in terms of both the time required to properly turn and reposition patients and the physical strain of lifting and turning. This makes it essential for caregivers to receive periodic in-service education to emphasize the importance of this prevention strategy.

Nurses, aides, and other caregivers need special training in proper patient turning and repositioning to avoid sustaining back injuries. Use of special devices, some of which were developed to assist family caregivers in turning and repositioning individuals at home, can help prevent employee back strain. In its 1992 guideline on pressure-ulcer prevention, AHRQ recommends using lifting and transfer devices to avoid friction and shear caused by dragging. As previously noted, friction and shear can contribute to the development of pressure ulcers.

Support Surfaces

The development of tissue damage and pressure ulcers partially depends on the type of support surface used. Normal capillary pressure that permits physiologic blood and lymph flow is about 32 mm Hg but varies among individuals. The prolonged, unrelieved pressures exerted by an ordinary bed are as high as 150 mm Hg, and without position changes or intervention, these pressures can cause tissue damage and destruction. The development of pressure ulcers leads to further pain, dependency, debilitation, and limitations in mobility.

The use of support surfaces—incorporating pressure-reduction and -relief devices—is an accepted practice in the provision of quality care for individuals at risk for pressure ulcers. AHRQ's 1994 practice guideline on pressure-ulcer treatment found “no compelling evidence” that one support surface consistently performs better than others under all circumstances. The guideline panel suggests that support surfaces be selected with the following performance characteristics in mind.45

- Increased support area
- Low moisture retention
- Reduced heat accumulation
- Shear reduction
- Pressure reduction
- Dynamic (versus static) properties
- Cost per day

In a 2002 report on evidence-based patient safety practices, AHRQ reaffirmed that use of pressure-relieving bedding materials was 1 of 11 patient safety practices identified as having the greatest strength of evidence regarding their impact and effectiveness.46 The report refrained from recommending specific pressure-relieving devices because few direct comparisons exist regarding the different types of surfaces.

The flowchart in Appendix D provides additional help in determining whether an individual needs a specialty bed or mattress overlay and, if so, which one is most appropriate.

Static support surfaces, such as air, foam, gel, and water overlays and mattresses, are ideal for patients at risk of pressure-ulcer development but still able to reposition themselves. Static support surfaces reduce the normal pressure of standard mattresses and chair surfaces. However, they do not maintain the pressure consistently below what is required to produce true pressure relief and reliably prevent pressure ulcers. The cost of these products is low enough to allow healthcare providers to use them with many at-risk individuals.

A few words of caution are necessary. Some pressure-reduction devices, such as foam pads and mattresses, can present a fire hazard. Patients must be warned against smoking while using them. Some foam pads can lose resilience under constant use and can also hold moisture, prevent air circulation, and harbor diseases if not replaced when soiled.

Pressure-reduction devices must also be used appropriately. For example, an incident was reported in
which an individual sustained extensive frostbite of
the buttocks after sitting on a gel wheelchair cushion
that had been left outside in freezing weather. The
wheelchair had been stored outside the person’s home
during a period of subfreezing temperatures. The indi-
vidual, who had myelodysplasia and L3 incomplete
paraplegia, developed lesions that were initially mis-
taken for pressure ulcers. Home healthcare workers in
particular should be aware of this danger and should
advise individuals against leaving gel cushions out-
side in cars or on wheelchairs in cold weather.47

The AHRQ and AMDA guidelines caution against
using doughnut-type (ring) devices. These devices
cause more harm than good by reducing blood flow
to tissue.

The AHRQ guidelines also note that the pheno-
menon of “bottoming out” can be a problem when using
any mattress overlay. Caregivers must ensure that bot-
toming out has not occurred, the guidelines empha-
size.48 This can be done by placing an outstretched
hand (palm up) under the overlay, below the pressure
ulcer or below the part of the body at risk. If the care-
giver feels less than an inch of support material, addi-
tional support should be used.

Dynamic, pressure-relief surfaces may be necessary
if the use of static support surfaces is unsuccessful, if
skin breakdown develops, or if the patient is at high
risk of developing pressure ulcers. These dynamic de-
vices are designed to provide true pressure relief by
consistently reducing the interface pressure below the
capillary closing pressure. The devices are powered by
electricity or a pump and include alternating-pressure
and low-air-loss mattresses.

Another type of dynamic support surface is an
air-fluidized bed. AMDA’s guidelines on pressure-
ulcer prevention and treatment state that air-fluidized
beds may be appropriate for patients with large
wounds on multiple turning surfaces or patients for
whom other approaches have been unsuccessful.49

Nevertheless, the use of dynamic support surfaces
can be expensive; the cost of a low-air-loss bed, for ex-
ample, averaged about $700 per month and ranged
from $10 per day to $145 per day in 2001.50 In addi-
tion, the associated time and resource implications
should be considered—for example, healthcare facili-
ties faced with the nationwide shortage of nurses must
accommodate the intensive nursing interventions asso-
icated with some of these specialized devices. Given
that the costs for individuals with pressure ulcers are
higher than the costs for those who do not develop
ulcers, the use of these devices must be justified. For
example, the use of air-fluidized beds as a preventive
measure for individuals at risk of developing pressure
ulcers is most likely unnecessary.

Some dynamic support surfaces are briefly de-
scribed below.

**Alternating-pressure mattresses.** Alternating-pressure
mattresses function by cyclically varying pressure in
the individual air cells of a mattress, continuously
shifting support from one area of the body to another.
Most modern systems have adjustable pressure con-
trols, and some automatically vary the support pres-

ture according to patient mass and position. Supervision is required to ensure that adequate infla-
tion is maintained and to prevent the patient from
bottoming out in the mattress.51

**Low-air-loss beds.** Low-air-loss beds are composed of in-
terconnected synthetic fabric air cushions that are in-
flated by an air compressor typically built into a bed
frame that is capable of full articulation and position-
ing. These beds are designed to lose air through the
cushions at a controlled rate to prevent maceration of
the patient’s skin. Most air-loss cushions are perme-
able to air and water vapor but not to liquid. Cush-
ions can be removed individually for cleaning, and
groups of cushions can be inflated to different pres-
sures for patient comfort or to accommodate therapy
or nursing procedures. The whole bed can be deflated
quickly to permit cardiopulmonary resuscitation on
the hard pan of the bed under the cushions.

**Low-air-loss mattresses.** Low-air-loss mattresses use
the same principles as low-air-loss beds, but the
mattresses are configured either as overlays to stan-
dard hospital beds or as replacements for standard
mattresses.

**Air-fluidized beds.** The main component of an air-
fluidized bed is a tank that contains trillions of tiny
soda-lime glass beads called microspheres. The patient
lies on a closely woven filter sheet that rests loosely
atop the microsphere-filled tank. An air-compressor
system blows warm, filtered air through the micro-
spheres from below, creating a fluidlike medium that
supports the patient and is more buoyant than water.
Controls on the front panel of the bed regulate the
temperature of the blown air according to the
patient’s needs.

Body fluids such as urine and wound debris pass
through the filter sheet and mix with the microspheres.
The contaminated microsphere clusters are sifted from
the tank and either cleaned or replaced; the filter sheet
is changed between uses or as recommended by the manufacturer.

Air-fluidized beds minimize pressure and provide a comfortable, moisture-free surface, even for individuals who are critically ill and totally immobile. Nevertheless, patients using these beds are often extremely sick and may require tube feeding or other assistance with eating. Close observation, frequent nutritional assessment, and intervention to prevent dehydration and other problems are crucial to the management of individuals using these beds. Also, healthcare facilities should be aware that the cost of such units is high, and technical training of personnel is required to ensure proper setup, operation, and maintenance.

Dehydration is a significant potential problem specific to use of beds that circulate high volumes of warm, dry air around the patient. Properly regulating the patient’s fluid balance and increasing fluid intake can help prevent this problem.

A potential safety concern with air-fluidized beds is the leakage of microspheres through small tears in the filter sheet.

Other potential adverse effects of air-fluidized bed treatment have been noted. Confusion or disorientation due to the sensation of floating has also been associated with use of these beds. Also, the lack of a solid back support, along with the fluid environment, can make coughing while lying on an air-fluidized bed ineffective, leading to the accumulation of pulmonary secretions and possible pneumonia in some individuals. Scheduled deep breathing and coughing using a foam backrest are advised.

In November 2002, CMS issued a national Medicare coverage policy for reimbursement of air-fluidized beds in the home. The coverage decision was based partly on a technology assessment of the therapy that ECRI prepared for AHRQ. Reimbursement for an air-fluidized bed in an individual’s home is provided after the individual completes a one-month course of conservative treatment to promote wound healing without success. Conservative treatment includes the use of other support surfaces, frequent repositioning, wound debridement and cleaning, and optimal nutrition. CMS also specified that home use of air-fluidized beds requires the availability of a trained adult caregiver to assist the person and oversee the air-fluidized bed system.

Safety precautions. Although accidents involving air-fluidized and low-air-loss beds and mattress systems are infrequent, the consequences of injuries resulting from such mishaps can be more severe than those involving general care beds because of the debilitating condition or the nature of the injuries for which some individuals using these specialty care beds are being treated.

Generally, injuries resulting from use of specialty care beds are preventable with proper equipment maintenance, personnel training, and adherence to simple procedures. Many of the problems reported to ECRI involving specialty care beds result from a combination of improper use, inadequate user training and knowledge, and failure to perform inspection and preventive maintenance.

When facilities rent or lease air-fluidized or low-air-loss beds, the distributor is responsible for maintenance, and the beds may be put into service without inspection by the healthcare facility. Although the distributor may have checked the bed before shipping, damage and loosening of fasteners can occur during delivery and installation. Therefore, ECRI recommends that qualified clinical engineering or maintenance personnel inspect rented or leased beds upon delivery and at least every six months thereafter for mechanical and electrical integrity and proper operation in all modes.
originate in the muscle overlying bony prominences and progress outwardly rather than inwardly. This is in contrast to most pressure ulcers seen in nonsurgical patients and explains why an ulcer may not be apparent upon completion of surgery; several days may pass before signs of damage are visible. OR-acquired pressure ulcers initially have a distinctive purple appearance early on, unlike nonsurgically acquired ulcers. Because OR-acquired ulcers progress very rapidly and can be large, severe, and unresponsive to traditional management techniques, they often lead to extended hospitalization, high financial cost to the patient and institution, and potential legal liability.

Straps used to secure the patient during surgery are another possible source of pressure and patient injury. More information on skin injury and patient positioning is available elsewhere in the HRC System.

OR patients known to be at the greatest risk include those undergoing vascular, cardiovascular, and orthopedic procedures. Although longer operating times (more than three hours) may be a factor in surgically related pressure-ulcers, pressure and time spent on the operating table, by themselves, may be inadequate predictors of pressure ulcer development. A recent review of published studies on intraoperative pressure-ulcers identified diabetes, vascular disease, decreased blood pressure, advanced age, increased body temperature, poor nutrition (e.g., low albumin, low hemoglobin), thinness or small stature, and use of a warming blanket as common risk factors among surgical patients.

Although the causes of intraoperative and postoperative pressure ulcers are still under study, improved pressure relief during surgery is thought to help reduce the incidence of ulcers. Conventional operating table pads cannot adequately protect against pressure ulcers. Many pressure-relief products used in other settings (e.g., water-filled or foam pads, sheepskins, alternating-pressure pads) are not well suited for use during surgery, due to concerns about electrical safety, positional stability, and/or asepsis. Surgery suites currently use a variety of support surfaces on operating tables. These include pads filled with gel, foam, or gel/foam combinations, as well as fluid- and air-filled products. However, there is insufficient information about these products in the OR setting because there are few studies that examine pressure-ulcer risk in the surgical patient.

If pressure-relieving systems are used in the OR, the specific type of device should be noted in the OR record. One expert states that the OR record should include details about how the patient was padded and positioned, whether the skin was assessed following the procedure, and what type of surface the patient was placed on—not only in the OR, but also in the postanesthesia care unit. These details could prove critical to the defense of a case alleging pressure ulcer development due to negligent intraoperative positioning.

### Quality Measures

Quality improvement programs have used pressure-ulcer prevalence and severity figures as quality indicators and outcome measures for several years. Pressure-ulcer development is viewed as an ideal quality measure because it is a common occurrence, requires the coordinated efforts and attention of a team of healthcare providers to prevent or treat it, and can serve as a red flag for more systemic problems in a facility.

CMS and other organizations recommend monitoring pressure-ulcer rates and incidence as a quality indicator for healthcare facilities. For example, the National Quality Forum (NQF), a private organization that develops national strategies for healthcare quality measurement and reporting, lists the evaluation of individuals for risk of developing pressure ulcers as 1 of 30 priority safe practices for healthcare facilities, including acute care and rehabilitation hospitals as well as skilled nursing facilities. NQF’s 2003 report, Safe Practices for Better Healthcare, recommends the evaluation of patients and residents upon admission and regularly thereafter for risk of developing pressure ulcers. It also states that clinically appropriate preventive methods should be implemented based on the results of the evaluation. In adopting this particular safe practice, NQF relied on the AHRQ recommendations to promote pressure-ulcer prevention as a patient/resident safety practice in the report Making Healthcare Safer: A Critical Analysis of Patient Safety Practices.

Another initiative that aims to reduce pressure-ulcer rates is the CMS Nursing Home Quality Initiative, a series of goals designed to improve the quality of healthcare for all Americans. One of the main goals of the initiative is to give consumers information on the quality of nursing home care through the Nursing Home Compare program, which includes 12 quality measures that will be used for public reporting purposes. Among the measures to be tracked is the percentage of high- and low-risk nursing home residents with pressure ulcers. Nursing Home Compare
Resource List

Agency for Healthcare Research and Quality
Center for Outcomes and Evidence
540 Gaither Road
Rockville, MD 20850
(301) 427-1600
http://www.ahrq.gov
- Air-fluidized beds used for treatment of pressure ulcers in the home environment [technology assessment], 2001 Nov
- Pressure ulcers in adults: prediction and prevention [clinical practice guideline], 1992 May
- Treatment of pressure ulcers [clinical practice guideline], 1994 Dec

American Medical Directors Association
10480 Little Patuxent Parkway
Suite 760
Columbia, MD 21044
(410) 740-9743
http://www.amda.com
- Pressure ulcer therapy companion [clinical practice guideline], 1999
- Pressure ulcers [clinical practice guideline], 1996 (reviewed 2004 Jan)
- We care: toolkit for implementation of clinical practice guidelines for pressure ulcers, 2004

Canadian Association of Wound Care
PO Box 85557
1048 Eglinton Avenue West
Toronto, ON M6C 4A8
Canada
(416) 782-2350
http://www.cawc.net
- Best practices for the prevention and treatment of pressure ulcers, 2000

Centers for Medicare & Medicaid Services
7500 Security Boulevard
Baltimore, MD 21244-1850
(877) 267-2323
http://www.cms.gov
- 42 CFR § 483: requirements for states and long-term care facilities
- 42 CFR § 488: survey, certification, and enforcement
- Medicare Quality Improvement Community (MEDQIC) Web-based resource center (http://www.medqic.org)
- Nursing Home Compare
- Resident assessment instrument user’s manual for the minimum data set version 2.0, 2002 Dec (revised 2006 Mar)
- State operations manual; guidance to surveyors; long-term care facilities (Tag No. F314, Tag No. F309)

ECRI
5200 Butler Pike
Plymouth Meeting, PA 19462
(610) 825-6000
http://www.ecri.org
- Air-fluidized beds for decubitus ulcers [TARGET™ report], 1998 Aug
- Beds, air-fluidized; low-air-loss; mattress systems, alternating pressure; low-air-loss [Healthcare Product Comparison System report], 2004 Oct

John A. Hartford Foundation Institute for Geriatric Nursing
New York University
Steinhardt School of Education
Division of Nursing
246 Greene Street
New York, NY 10003-6677

also looks at the percentage of short-stay residents with pressure ulcers. More information about Nursing Home Compare is available online at http://www.medicare.gov/NHCompare/home.asp.

Not surprisingly, quality improvement initiatives in nursing home settings often focus on pressure-ulcer care. Over a three-year period, quality improvement initiatives at two long-term care facilities were assessed to determine whether such changes improved quality of care for residents.70 One of the studied facilities, in which the rate of new stage II or greater pressure ulcers was problematic for more than 18 months, experienced a significant reduction in the development of these pressure ulcers. The initiative, referred to as the AIM approach, involved ability enhancement, incentives, and management feedback. Staff members completed a computer-based interactive training program on pressure-ulcer prevention, financial incentives were awarded to staff who completed their training, and feedback on progress was reported to management. As a result of the quality improvement initiative, pressure-ulcer incidence was reduced from 23.1% during the preintervention period to 9.3% during the 12-week intervention period.

Another benchmarking study on pressure ulcers71 was undertaken at a Pennsylania nursing care center
that was able to reduce its rate of acquired pressure ulcers from 21% to 2% in only one year. A critical finding in the process was that although residents were being examined upon admission to the facility, they were not being reassessed on a weekly basis to ascertain their risk of developing acquired pressure ulcers. The excellent results were accomplished after the facility implemented a systemwide, multilevel, and multidisciplinary performance improvement process targeting this area, including the use of an integrated risk assessment tool for pressure ulcers. The tool, which identifies an individual’s risk of developing pressure ulcers based on eight factors, is reprinted in “Skin-Breakdown Risk Assessment.” Those who have conducted such quality improvement initiatives emphasize the importance of providing feedback and data from the initiatives to staff and caregivers to ensure that they understand the importance of their facility’s pressure-ulcer prevention and management programs.

In the hospital setting, CMS is requiring hospitals to develop and implement quality assessment and performance improvement (QAPI) programs in an effort to further reduce medical errors and patient injuries. These requirements are outlined in Medicare

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The QAPI recommendations specify that hospitals focus on high-risk, high-volume, or problem-prone processes. Tracking the incidence and severity of pressure ulcers is likely to be part of many hospitals’ programs.

**ACTION RECOMMENDATIONS**

- Remain knowledgeable about changing standards of care for identifying, treating, and preventing pressure ulcers based on government and professional association standards and guidelines, case law, and regulations. Begin by using the Resource List in this Risk Analysis.
- Develop and implement a risk control plan for your facility that ensures identification of individuals at risk of pressure-ulcer development, adequate documentation of the existence and worsening or improvement of pressure ulcers, quality-assurance oversight, prevention protocols for all patients, and education for providers, patients, and family or other caregivers. Include the critical care units and the OR in this plan.
- Select and implement a tested and validated risk assessment tool for use in your facility.
- Ensure that nurses and aides receive periodic in-service training on patient lifting and repositioning.
- Develop written, individually tailored repositioning schedules for all at-risk patients. Document that these schedules are being followed.
- Organize an interdisciplinary team of staff to monitor at-risk patients and those with pressure ulcers.
- Ensure that caregivers document protocols and care provided, including pain management, nutrition and hydration, and toileting or incontinence care.
- Ensure that caregivers know that a clinical diagnosis must be made before a patient’s skin condition is documented as a pressure ulcer.
- Ensure that nurses understand the proper operation of special beds, mattresses, and other preventive devices before use.
- Use the flowchart in Appendix D to help determine whether an individual requires use of a specialty bed or mattress overlay and, if so, which is the most appropriate.
- Ensure that special beds are regularly inspected and maintained.
- Beware of possible bead leaks from air-fluidized beds.
- Educate OR nurses about the risks of pressure ulcer development during surgery.
- Teach caregivers how to spot the early signs of skin breakdown and how to report these signs to supervisors and/or physicians.
- Ensure that home care providers teach family caregivers how to spot signs of skin breakdown and about basic prevention guidelines.
- Develop flow sheets (such as the one in Appendix B) to document changes in skin condition.
- If your facility has elected to use photographs to document location and staging of pressure ulcers, develop and implement a protocol for photographic documentation. Use high-quality photographic images with grid film or digital images with a density of at least 1.5 megapixels to document existing pressure ulcers upon patient admission/readmission, discharge to the hospital, and at other times, as determined by the facility.
- Conduct pressure-ulcer documentation audits periodically to ensure that facility policy, procedures, and protocols are followed consistently.

**Notes**

7. American Medical Directors Association, supra note 2.
15. Joint Commission on Accreditation of Healthcare Organizations, supra note 6.
17. Leonard J. Abuse victim wins award. LA Times 2005 Jul 2; Sect B3.
22. Bennett RG et al., supra note 16.
35. Bergstrom N et al., supra note 12.
36. Lyder CH, supra note 34.
42. American Medical Directors Association, supra note 39.
45. Bergstrom N et al., supra note 12.
52. Ibid.
54. Ibid.
60. ECRI. Investigating device-related “burns.” *Health Devices* 2005 Dec;34(12):393-413.
68. Agostini JV et al., *supra* note 46.