

# extra

## A New Era of Pressure Ulcer Accountability in Acute Care



**CATEGORY 1**

1 Credit



**ANCC/AACN**

2.0 Contact Hours

**Elizabeth A. Ayello, RN, APRN, BC, PhD, FAAN, FAPWCA** • Faculty • Excelsior College School of Nursing • Albany, NY • Senior Advisor • The John A. Hartford Institute for Geriatric Nursing • New York, NY • President • Ayello, Harris & Associates • New York, NY • Clinical Associate Editor • *Advances in Skin & Wound Care* • Ambler, PA • Co-chairperson, World Union of Wound Healing Societies Third Congress • Toronto, Ontario, Canada

**Courtney H. Lyder, RN, ND** • University of Virginia Medical Center Professor of Nursing • Professor of Internal Medicine and Geriatrics • Director of Diversity Initiatives • Chairman, Department of Acute and Specialty Care • University of Virginia • Charlottesville, VA

Dr Ayello has disclosed that she was a consultant/advisor for Coloplast; is a consultant/advisor for Covidien and Medline; is/was a consultant/advisor for Smith & Nephew, KCI, IVIVI, Mölnlycke, Hill-Rom, and Sage; is/was a member of the speaker's bureau for Smith & Nephew, KCI, Hill-Rom, Ross, and Organogenesis; is a member of the speaker's bureau for 3M and Mölnlycke; other; Hollister, HEALTHPOINT, Lippincott Williams & Wilkins, New Jersey Hospital Association (with funding from 3M, Sage, and HEALTHPOINT), World Union of Wound Healing Societies, and the American Professional Wound Care Association. Dr Lyder is/was a member of the speaker's bureau for ConvaTec, KCI, and Huntleigh Healthcare. All staff in a position to control the content of this CME activity have disclosed that they have no financial relationships with, or financial interests in, any commercial companies pertaining to this educational activity.

Lippincott CME Institute, Inc, has identified and resolved all faculty and staff conflicts of interest regarding this educational activity. This article is adapted and reprinted with permission from Ayello EA, Lyder CH. Protecting patients from harm: preventing pressure ulcers in hospital patients. *Nursing* 2007;37(10):36-40.

### PURPOSE

**To familiarize wound care practitioners with the 5 Million Lives Campaign's pressure ulcer prevention intervention.**

### TARGET AUDIENCE

**This continuing education activity is intended for physicians and nurses with an interest in wound care.**

### OBJECTIVES

**After reading this article and taking this test, the reader should be able to:**

- 1. List organizational and national initiatives that address pressure ulcer prevention.**
- 2. Identify characteristics of pressure ulcers.**
- 3. Identify 6 strategies that help prevent pressure ulcers.**

ADV SKIN WOUND CARE 2008;21:134-40; quiz 141-2.

**D**espite national guidelines on preventing and treating pressure ulcers, these wounds are becoming increasingly common in hospitalized patients in the

United States. Data from a review of Medicare records from 1993 to 2003 showed that pressure ulcers increased by 63% in hospitalized patients, even though the number of stays

increased by only 14%.<sup>1</sup> Patients hospitalized specifically for pressure ulcers had a mean length of stay (LOS) of 13 days, which is higher than the national average for a hospital LOS.<sup>1</sup>

An estimated 2.5 million patients are treated each year in US acute care facilities for pressure ulcers.<sup>2</sup> An estimated 60,000 patients die each year of pressure ulcer complications, and the cost of treating these wounds is estimated at \$11 billion per year.<sup>3</sup>

Pressure ulcers can lead to pain, loss of function, infection, extended hospital stay, and increased costs. As such, pressure ulcers met the Centers for Medicare & Medicaid Services (CMS) recommendations as set forth in the Deficit Reduction Act of 2005 that required the Secretary of the US Department of Health and Human Services to select at least 2 conditions for the change in reimbursement, unless present on admission. The criteria included:

- high cost or high volume or both
- result in a higher DRG (diagnosis-related group)
- could reasonably be preventable through application of evidence-based guidelines.<sup>4</sup>

Pressure ulcers were 1 of the initial 6 conditions out of 13 considered by the CMS in the proposed ruling released on

**TABLE 1.**  
**HOSPITAL-ACQUIRED CONDITIONS (PRESENT ON ADMISSION INDICATOR)**

- I. Conditions selected for payment implications (beginning October 1, 2008)
  - a. Serious preventable events
    - i. Object left in during surgery
    - ii. Air embolism
    - ii. Blood incompatibility
  - b. Catheter-associated urinary tract infection
  - c. Pressure ulcers
  - d. Vascular catheter-associated infection
  - e. Surgical site infection—mediastinitis after coronary artery bypass graft surgery
  - f. Falls and trauma—fractures, dislocations, intracranial injuries, crushing injuries, and burns
- II. Conditions being considered for FY2009 IPPS ruling
  - a. Ventilator-associated pneumonia
  - b. *Staphylococcus aureus* septicemia
  - c. Deep vein thrombosis/pulmonary embolism
- III. Conditions needing further analysis
  - a. Methicillin-resistant *S aureus*
  - b. *Clostridium difficile*-associated disease
  - c. Wrong surgery

Source: [http://www.cms.hhs.gov/HospitalAcqCond/06\\_Hospital-Acquired%20Conditions.asp#TopOfPage](http://www.cms.hhs.gov/HospitalAcqCond/06_Hospital-Acquired%20Conditions.asp#TopOfPage). Last accessed January 1, 2008.

**TABLE 2.**  
**AFFECTED HOSPITALS**

As of January 2008, the following hospitals are exempt from the present on admission indicator and hospital-acquired conditions:

- Critical access hospitals
- Long-term care hospitals
- Maryland waiver hospitals
- Cancer hospitals
- Children's inpatient facilities

Source: Centers for Medicare & Medicaid Services.<sup>7</sup>

April 13, 2007.<sup>4</sup> The usual 60-day comment period followed, and on August 1, 2007, CMS released its final ruling to include pressure ulcers in its final 8 conditions.<sup>5</sup> (Clinicians should check the CMS Web site for increased information that clarifies the implications of this ruling of August 1, 2007.) The CMS proposed that, starting in October 2008, it discontinue assigning a higher payment to hospitals for pressure ulcers that develop during hospitalization.<sup>4</sup> This proposed ruling became final on August 1, 2007, when CMS included pressure ulcers as 1 of the at least 2 conditions that were required to be selected (Table 1).<sup>5</sup> CMS refers to this as the present on admission (POA) hospital-acquired conditions. The financial impact of the POA indicator has yet to be elicited. Some in the wound care community have raised concerns about the implications of this ruling, including proposed changes in the billing codes for pressure ulcers. CMS had a public listening session about this ruling on December 17, 2007. A wealth of information, including educational resources (frequently asked questions, PowerPoint slides, fact sheets, etc), is available on the CMS Web site about the POA.<sup>6</sup> As more details and updates about POA are released, clinicians and administrators are urged to visit the CMS Web site periodically.

Hospitals will need to develop or continue their aggressive programs for preventing pressure ulcers (Table 2 lists hospitals that are exempt as of January 2008).<sup>7</sup> Hospitals now find themselves reviewing their care processes for pressure ulcer prevention and treatment in preparation for this reimbursement change. CMS has indicated on their Web site that the provider must indicate if the pressure ulcer is present on admission. Provider has been defined by CMS as "physician or any qualified health care practitioner who is legally accountable for establishing the patient's diagnosis." Coders use the physician history and physical rather than the nursing admission documentation for coding purposes. This may

mean that education on pressure ulcer identification and staging will need to include several different disciplines.

As hospitals prepare, the education materials of the Institute for Healthcare Improvement (IHI) on pressure ulcers may be helpful. The IHI has made preventing pressure ulcers 1 of 12 interventions in its 5 Million Lives Campaign (Table 3).<sup>8</sup>

The good news is that many pressure ulcers are preventable. This article will discuss the IHI's recommended steps for preventing pressure ulcers and discuss how 2 successful pressure ulcer prevention programs influenced those recommendations (Table 4).

**TABLE 3.**  
**THE 5 MILLION LIVES CAMPAIGN**

The pressure ulcer interventions recommended by IHI are part of the 5 Million Lives Campaign, which challenges American hospitals to adopt 12 changes in care that save lives and prevent injuries. The goal is to prevent 5 million incidents of medical harm in a 2-year period (December 2006 to December 2008).

The 5 Million Lives Campaign incorporates the 6 interventions from the 100,000 Lives Campaign plus 6 new interventions, as follows:

**Six interventions from the 100,000 Lives Campaign:**

- Deploy rapid response teams
- Prevent ventilator-associated pneumonia
- Prevent adverse drug events
- Prevent central line infections
- Prevent surgical site infections
- Deliver evidence-based care to treat acute myocardial infarction.

**Six new interventions from the 5 Million Lives Campaign:**

- Reduce surgical complications by reliably implementing all the changes in care recommended by the Surgical Care Improvement Project.
- Prevent harm from high-alert medications, starting with a focus on anticoagulants, sedatives, opioids, and insulin.
- Prevent pressure ulcers by reliably using science-based guidelines for their prevention.
- Deliver reliable, evidence-based care for heart failure to avoid readmissions.
- Reduce methicillin-resistant *Staphylococcus aureus* infection by reliably implementing scientifically proven infection control practices.
- Get boards on board by defining and spreading the best-known leveraged processes for hospital boards of directors, so that they can become far more effective in accelerating organizational progress toward safe care.

**TABLE 4.**  
**EXEMPLARS OF SUCCESS IN PRESSURE  
ULCER REDUCTION**

When the IHI developed its recommendations for preventing pressure ulcers, it looked to 2 success stories: the New Jersey Hospital Association (NJHA) and the St. Louis, MO-based Ascension Health system.

**No ulcers in New Jersey**

Using the theme "No Ulcers," the NJHA developed a series of educational programs, an e-mail information distribution list, and monthly conference calls with leading national and international pressure ulcer experts. "No Ulcers" is an acronym for **N**utrition and fluid status, **O**bservation of skin, **U**p and walking or turn and position, **L**ift (don't drag) skin, **C**lean skin and continence care, **E**levate heels, **R**isk assessment, and **S**upport surfaces for pressure redistribution.

The NJHA's 125 care partners from hospitals, long-term care, home health care, and rehabilitation and other facilities sought to reduce pressure ulcers by 25% in 1 year. Quality improvement data reports from collaborative partners, as well as pressure ulcer knowledge, were collected. An important focus was on communication and changing institutional culture to support pressure ulcer reduction. After 20 months of data reporting, a 70% reduction in pressure ulcer incidence and 30% reduction in pressure ulcer prevalence were reported among reporting partners across the care continuum, according to an article in *The New York Times*. Education programs and conference calls raised the knowledge level for nurses involved in the collaborative program; certified nurses had the highest scores.

**Focusing on SKIN at Ascension**

Ascension Health, the largest not-for-profit health care system in the United States, has 70 acute care hospitals, long-term-care facilities, and rehabilitation hospitals in 20 states and the District of Columbia. The system chose pressure ulcer prevention as 1 of its 8 targeted care areas for a quality improvement effort launched in February 2004.

Nurses throughout Ascension Health created and implemented care methods under the SKIN (**S**urface selection, **K**eeP turning, **I**ncontinence management, and **N**utrition) bundle. The SKIN bundle was tested in all of Ascension's acute care and long-term-care facilities and has reduced pressure ulcer incidence to about 1.4 per 1000 patient-days systemwide. Six of the system's hospitals had no acquired pressure ulcers for 1 year. Almost all the pressure ulcers that did occur were Stage I or II, as most Stage III and IV ulcers were eliminated.

## PRESSURE ULCERS: WHAT LIES BENEATH

Pressure ulcers usually occur over bony prominences, such as the sacrum or heels, where unrelieved pressure damages underlying tissue. Friction and shear, combined with pressure, also can cause a pressure ulcer, according to the revised definition from the National Pressure Ulcer Advisory Panel (NPUAP) (Table 5). Muscle and subcutaneous tissues are more susceptible to pressure than skin, so the damage can be worse than expected on initial appearance. Dry skin can also be a risk factor for ulceration.<sup>3</sup>

The IHI's staging system frequently used for pressure ulcers was developed in the late 1980s by an NPUAP consensus conference and most recently updated again in February 2007.<sup>9-11</sup> Nurse-researchers have developed several different risk assessment scales for clinicians to use to identify patients at risk for pressure ulcers, and the Agency for Healthcare

Research and Quality (formerly Agency for Health Care Policy and Research) developed guidelines for pressure ulcer prevention and treatment.<sup>12,13</sup> Additional guidelines have been developed by the Wound, Ostomy and Continence Nurses Society and the Wound Healing Society.<sup>14,15</sup>

Pressure ulcers in hospitalized patients are now reportable in several states. In New Jersey, pressure ulcers have been designated as a preventable adverse event (also called "never events"). New Jersey hospitals must report within 3 working days any Stage III or IV pressure ulcers acquired after a patient is admitted to a health care facility.<sup>16</sup>

## FOLLOWING IHI'S RECOMMENDATIONS

The IHI recommendations for preventing pressure ulcers start with identifying patients at risk and reliably implementing prevention strategies for all patients identified as

**TABLE 5.**  
**SETTING THE STAGE**

In February 2007, the NPUAP revised the classic definition of a pressure ulcer and expanded the staging system to 6 categories. A pressure ulcer is now defined as a localized injury to the skin or underlying tissue, usually over a bony prominence, as a result of pressure in combination with shear or friction.

The IHI's campaign focuses on the fact that in most cases, pressure ulcers are preventable. However, if they do occur, stage pressure ulcers using the NPUAP's recently revised system:

- **Suspected deep tissue injury**—a purple or maroon localized area of discolored intact skin or blood-filled blister caused by damage to the underlying soft tissue from pressure or shear. The area may be painful, firm, mushy, boggy, warmer, or cooler, compared with adjacent tissue. In patients with dark skin tones, deep tissue injury may be difficult to detect, but may start with a thin blister over a dark wound bed. The wound may evolve and become covered with thin eschar. Even with optimal treatment, the wound may evolve rapidly, exposing additional layers of tissue.
- **Stage I pressure ulcer**—intact skin with nonblanchable redness of a localized area, usually over a bony prominence. Darkly pigmented skin may not have visible blanching; its color may differ from the surrounding area. The area may be painful, firm, soft, warmer, or cooler, compared with adjacent tissue. This stage may be difficult to detect in patients with dark skin tones.
- **Stage II pressure ulcer**—partial-thickness loss of dermis presenting as a shiny or dry shallow open ulcer with a red-pink wound bed, without slough or bruising. (Note that bruising indicates suspected deep tissue injury.) May also present as an intact or open/ruptured serum-filled blister. Stage II should not be used to describe skin tears, tape burns, perineal dermatitis, maceration, or excoriation.

- **Stage III pressure ulcer**—full-thickness tissue loss. Subcutaneous fat may be visible, but bone, tendon, and muscle are not exposed. Slough may be present but does not obscure the depth of tissue loss. May include undermining and tunneling. The depth of a Stage III pressure ulcer varies depending on its anatomic location. On the bridge of the nose, ear, occiput, and malleolus, which lack subcutaneous tissue, these ulcers are shallow. Extremely deep Stage III pressure ulcers can develop in areas of significant adiposity.
- **Stage IV pressure ulcer**—full-thickness tissue loss with exposed bone, tendon, or muscle. Slough or eschar may be present on some parts of the wound bed. Often includes undermining or tunneling. As with Stage III pressure ulcers, Stage IV pressure ulcers vary in depth depending on their location. Because these ulcers extend into muscle and supporting structures, the patient also is at risk for osteomyelitis.
- **Unstageable pressure ulcer**—full-thickness tissue loss in which the base of the ulcer is covered by slough (yellow, tan, gray, green, or brown) or eschar (tan, brown, or black). The true depth and stage of the ulcer cannot be determined until enough slough and eschar are removed. Stable eschar on the heels provides a natural biologic cover and should not be removed.

## About the IHI

Founded in 1991 and based in Cambridge, MA, the Institute for Healthcare Improvement (IHI) is a not-for-profit organization that leads the improvement of health care throughout the world by inspiring change, cultivating innovative concepts for improving patient care, and implementing programs for putting these ideas into action to achieve breakthrough results. Its highly successful 100,000 Lives Campaign was a nationwide initiative to radically reduce morbidity and mortality in American hospitals, building on the successful work of health care providers all over the world; the campaign promoted the widespread deployment of best practices proven to save lives. The IHI estimates that facilities participating in the 100,000 Lives Campaign avoided more than 122,000 unnecessary deaths during the 18-month campaign period (December 2004 to June 2006). The successor to the 100,000 Lives Campaign—the 5 Million Lives Campaign—aims to reduce medically induced harm in addition to continuing to fight needless deaths.

To learn more, contact the IHI at 1-866-787-0831 or visit <http://www.ihl.org>.

being at risk. These 2 steps are further broken down into 6 essential elements of pressure ulcer prevention, with suggested processes to achieve each element.<sup>8</sup> These steps are:

**1. Conduct a pressure ulcer admission assessment for all patients.** When a patient is admitted, assess his or her skin for existing pressure ulcers, and perform a risk assessment to determine if he or she is at risk for developing a pressure ulcer. A patient who has a pressure ulcer on admission is at risk for developing more pressure ulcers. Risk factors for pressure ulcers include advanced age, immobility, incontinence, inadequate nutrition, sensory deficiency, comorbid conditions, circulatory abnormalities, and dehydration. Clinicians should ask patients on admission if they have a history of a pressure ulcer. Remember that wounded skin has only about 80% tensile of nonwounded skin, so the chance of skin breakdown is increased. Use a validated pressure ulcer risk assessment tool such as the Braden Scale (<http://www.bradenscale.com>). Research has shown that patients with scores of 18 or less are at risk. The presence of major risk factors such as advanced age, fever, poor dietary intake of protein, diastolic pressure below 60, or hemodynamic instability must be factored into determining the patient's final risk score with the Braden Scale. This puts him or her into the next higher category of ulcer risk on the Braden Scale.

Remember that it is not just about the total risk assessment score. Your pressure ulcer prevention interventions should be targeted for a patient with a low score in any of the risk subcategories. Remember that patients in the emergency department (ED) who have been admitted to the hospital also need a pressure ulcer risk assessment. According to the new CMS POA indicator, present on admission is defined as “present at the time the order for inpatient admission occurs—conditions that develop during an outpatient encounter, including emergency department, observation, or outpatient surgery, are considered as present on admission.”<sup>7</sup> The ED staff can perform this assessment while the patient is waiting for his or her bed to be ready.

**2. Reassess risk for all patients daily.** The IHI is among the first to recommend daily assessment for pressure ulcer risk, recognizing that because of the acuity and complexity of hospitalized patients, the risk profile can change during hospitalization.

To ensure daily reassessment of pressure ulcer risk, facilities should choose a standard, validated reassessment tool and include it on the assessment forms. Make the form fast and easy for clinical use (for example, with check boxes and short phrases for easy documentation of care given). Documentation forms could include prompts to remind clinicians to perform a daily pressure ulcer risk assessment. The facility's policies and procedures should indicate who and which shift is responsible for doing the daily assessment. Any time the patient's condition changes, or is transferred to another care unit, he or she should be reassessed for pressure ulcer risk.

Once a patient is identified as at risk for pressure ulcer development, all members of the health care team need to be informed. All levels of staff should be educated about pressure ulcer risk factors and the process for implementing prevention strategies. Additional visual clues, such as stickers in the patient's medical record or color markings on the patient's ID band, can help remind staff that the patient is at risk for pressure ulcers.

**3. Inspect skin daily.** This is especially important for patients at high risk for skin breakdown. All staff members should inspect the patient's skin—when assisting the patient to a chair or during bathing, for example. Pay particular attention to his or her sacrum, back, buttocks, heels, and elbows. Protect the skin from injury due to moisture from incontinence. Because dry skin is also a risk factor, appropriate skin protective products should be used.<sup>3</sup> Always look at the skin beneath tubes and other devices that could cause an ulcer. In obese patients, skin injuries can occur from the skin-to-skin contact in areas such as the breast, abdomen,

and knee. Remember that skin integrity can deteriorate within hours. Vitamin and mineral deficiencies often result in skin changes. Clinicians should look for redness around the eyebrows and nasolabial fold for zinc deficiency or waxy, perifollicular hyperkeratosis on the buttocks for Vitamin A deficiency.<sup>13</sup> Report changes in skin integrity to the appropriate staff member so interventions can be started immediately. Follow the facility's policy for documenting any pressure ulcers that are detected. Remember that providers must *already* be documenting both primary and secondary diagnoses present on admission, as CMS requires this as of October 1, 2007.

**4. Manage moisture.** A moist environment helps wound healing, but excess moisture can lead to rashes and faster skin breakdown. Clean the patient's skin at routine intervals and any time he or she is incontinent. Watch for excessive moisture caused by incontinence, perspiration, or wound drainage. Use an appropriate cleansing agent that will not irritate or dry the skin, applying it gently without undue rubbing.

Many skin care products can protect the skin from excess moisture. All levels of staff should know the correct application technique for the specific brand of products used in the hospital. Keep supplies for incontinent patients readily available. Provide appropriate undergarments or products that wick moisture away from the skin, clean soiled skin promptly, and apply a topical moisture barrier to protect the skin and prevent skin breakdown.

Dry skin also is susceptible to breakdown. If the patient's skin is dry and fragile, apply moisturizers and skin protectors.

**5. Optimize nutrition and hydration.** Poor nutrition and dehydration can contribute to pressure ulcers. Unintentional weight loss may be an indication that the patient is at nutritional risk. Document the patient's nutritional intake and notify the health care provider or dietitian if his or her intake is inadequate. Use supplements as needed. One strategy to increase caloric intake is to use an isotonic nutritional supplement rather than water when administering medications to the patient. Respect the patient's dietary preferences as much as medically possible. Monitor hydration status and offer water (if appropriate) whenever he or she is repositioned.

**6. Minimize pressure.** Patients with limited mobility are at particular risk for pressure ulcers: Long periods of low pressure are as dangerous to tissue as short periods of high pressure. Most patients should be turned or repositioned every 2 hours, but those with very fragile skin or little subcutaneous tissue may need to be repositioned more frequently. Use alerts and cues to remind staff to turn the patient.

To protect his or her skin during turning, use lift devices or draw sheets, heel and elbow protectors, or sleeves and stockings.

Because heel ulcers are the second most prevalent pressure ulcer and can be difficult to heal, remember to use heel protectors or heel lift suspensions. If elevating heels on pillows, make sure staff knows how to correctly place the pillow to avoid injury to the Achilles tendon. Make sure you know if the support surface your patient is on has a built-in heel pressure-relieving function, and if so, use it.

Never drag the patient. Keep the head of the bed at 30 degrees or less (unless contraindicated) to reduce pressure, friction, and shearing forces on his or her sacrum.

Use pillows and cushions to help position patients. Specialty pressure-relieving support surfaces, such as mattresses, should be used when appropriate. A good support surface redistributes pressure without harming skin, keeps the patient's skin dry and does not make him or her sweat, and does not promote bacterial growth. Make sure the bed can accommodate the patient's weight, and use a bed designed for bariatric patients. Make sure you know how to operate the bed or support surface correctly. For at-risk patients who sit in a wheelchair or chair, use a seating cushion to redistribute pressure.

## TAKING A LOAD OFF

Preventing pressure ulcers is not a new concern, but how to do it effectively has been a topic of interest for hundreds of years. By building on successful pressure ulcer prevention programs, the IHI's approach offers a practical tool kit for reducing pressure ulcer incidence by one third in the next few years. Now, more than ever, with the change in reimbursement for pressure ulcers beginning October 1, 2008, preventing pressure ulcers is critical. ●

## REFERENCES

1. Russo CA, Elixhauser A. Hospitalizations related to pressure sores, 2003. Healthcare Cost and Utilization Project (HCUP) Statistical Brief #3. Rockville, MD: Agency for Healthcare Research and Quality; April 2006. Available at: <http://www.hcup-us.ahrq.gov/reports/statbriefs/sb3.pdf>. Last accessed January 9, 2008.
2. Lyder CH. Pressure ulcer prevention and management. JAMA 2003;289:223-6.
3. Reddy M, Gill SS, Rochon PA. Preventing pressure ulcers: a systematic review. JAMA 2006;296:974-84.
4. Centers for Medicare and Medicaid Services. FY 2008 inpatient prospective payment system proposed rule improving the quality of hospital care. April 13, 2007. Available at: [http://www.cms.hhs.gov/apps/media/fact\\_sheets.asp](http://www.cms.hhs.gov/apps/media/fact_sheets.asp). Last accessed on July 9, 2007.
5. Details for: FY 2008 inpatient prospective payment system final rule. August 1, 2007. Available at: <http://www.cms.hhs.gov/apps/media/press/factsheet.asp?Counter=2338&intNumberPage=108&checkDate=&checkKey=&SrcType=1&numDays=350>. Last accessed September 13, 2007.
6. Centers for Medicare & Medicaid Services. Overview of hospital-acquired conditions (present on admission indicator). Available at: [http://www.cms.hhs.gov/HospitalAcqCond/01\\_Overview.asp#TopOfPage](http://www.cms.hhs.gov/HospitalAcqCond/01_Overview.asp#TopOfPage). Last accessed January 9, 2008.

7. Centers for Medicare & Medicaid Services. Affected hospitals. Available at: [www.cms.hhs.gov/HospitalAcqCond/03\\_AffectedHospitals.asp#TopOfPage](http://www.cms.hhs.gov/HospitalAcqCond/03_AffectedHospitals.asp#TopOfPage). Last accessed January 1, 2008.
8. Institute for Healthcare Improvement. 5 Million Lives Campaign. Getting started kit: prevent pressure ulcers: how-to guide. Available at: <http://www.ihl.org>. Last accessed February 18, 2007.
9. Gosnell DJ. An assessment tool to identify pressure sores. *Nurs Res* 1973;22:55-9.
10. Bergstrom N, Braden BJ, Laguzza A, Holman V. The Braden Scale for predicting pressure sore risk. *Nurs Res* 1987;36:205-10.
11. Abruzzese RS. Early assessment and prevention of pressure sores. In: Lee B, ed. *Chronic Ulcers of the Skin*. New York, NY: McGraw-Hill Book Co; 1985.
12. Panel on the Prediction and Prevention of Pressure Ulcers in Adults. *Pressure Ulcers in Adults: Prediction and Prevention*. Clinical Practice Guideline No. 3. Publication No. 92-0047. Rockville, MD: Agency for Health Care Policy and Research; 1992.
13. Bergstrom N, Bennett MA, Carlson CE, et al. *Treatment of Pressure Ulcers*. Clinical Practice Guideline No. 15. AHCPR Publication No. 95-0652. Rockville, MD: Agency for Health Care Policy and Research; 1994.
14. Wound, Ostomy and Continence Nurses Society. *Guideline for Prevention and Management of Pressure Ulcers*. Glenview, IL: Wound, Ostomy and Continence Nurses Society; 2003.
15. Whitney J, Phillips L, Aslum R, et al. *Guidelines for the treatment of pressure ulcers*. *Wound Repair Regen* 2006;14:663-79.
16. *Interim Mandatory Patient Safety Reporting Requirements for General Hospitals*. Patient Safety Reporting Initiative. Health Care Quality Assessment. Trenton, NJ: New Jersey Department of Health and Senior Services; 2004.

## CE CONNECTION

### CONTINUING MEDICAL EDUCATION INFORMATION FOR PHYSICIANS

Lippincott Continuing Medical Education Institute, Inc. is accredited by the Accreditation Council for Continuing Medical Education to provide continuing medical education for physicians.

Lippincott Continuing Medical Education Institute, Inc. designates this educational activity for a maximum of 1 *AMA PRA Category 1 Credit™*. Physicians should only claim credit commensurate with the extent of their participation in the activity.

### PROVIDER ACCREDITATION INFORMATION FOR NURSES

Lippincott Williams & Wilkins, publisher of the *Advances in Skin & Wound Care* journal, will award 2.0 contact hours for this continuing nursing education activity.

LWW is accredited as a provider of continuing nursing education by the American Nurses Credentialing Center's Commission on Accreditation.

LWW is also an approved provider of continuing nursing education by the American Association of Critical-Care Nurses #00012278, (CERP Category A), District of Columbia, Florida #FBN2454, and Iowa #75. LWW home study activities are classified for Texas nursing continuing education requirements as Type 1. This activity is also provider approved by the California Board of Registered Nursing, Provider Number CEP 11749 for 2.0 contact hours.

Your certificate is valid in all states.

### CONTINUING EDUCATION INSTRUCTIONS

- Read the article beginning on page 134.
- Take the test, recording your answers in the test answers section (Section B) of the CE enrollment form. Each question has only one correct answer.

- Complete registration information (Section A) and course evaluation (Section C).
- Mail completed test with registration fee to: Lippincott Williams & Wilkins, CE Group, 333 7th Avenue, 19th Floor, New York, NY 10001.
- Within 3 to 4 weeks after your CE enrollment form is received, you will be notified of your test results.
- If you pass, you will receive a certificate of earned contact hours and an answer key. Nurses who fail have the option of taking the test again at no additional cost. Only the first entry sent by physicians will be accepted for credit.
- A passing score for this test is 10 correct answers.
- Nurses: Need CE STAT? Visit <http://www.nursingcenter.com> for immediate results, other CE activities, and your personalized CE planner tool. No Internet access? Call 1-800-787-8985 for other rush service options.
- Questions? Contact Lippincott Williams & Wilkins: 1-800-787-8985.

**Registration Deadline: March 31, 2010 (nurses); March 31, 2009 (physicians)**

### PAYMENT AND DISCOUNTS

- The registration fee for this test is \$21.95 for nurses; \$20 for physicians.
- Nurses: If you take two or more tests in any nursing journal published by LWW and send in your CE enrollment forms together, you may deduct \$0.95 from the price of each test. We offer special discounts for as few as six tests and institutional bulk discounts for multiple tests. Call 1-800-787-8985, for more information.