



A New Look At Pressure Ulcers

Ultrasound technology can help detect skin integrity issues that are not apparent in a visual skin assessment.

IN DECEMBER 2005, A KNEE replacement patient arrived at the Presbyterian Home of Hawfields, a 117-bed, nonprofit facility in Mebane, N.C., that caters to both short- and long-stay patients. During the routine admissions process, the registered nurse (RN) coordinator performed a visual skin assessment and found that the patient's skin appeared "normal," with no apparent redness, discoloration, or skin breakdown.

At one time, a visual assessment of the patient's skin integrity might have been the last word. But, as it happens, the facility had recently purchased an ultrasound scanning device that can detect skin integrity issues that may not be apparent during a standard visual assessment.

When a second RN who'd been trained on the scanner performed another assessment using ultrasound, it was revealed that the patient had some decreased integrity in the underlying tissue, which put her at increased risk for probable skin breakdown in the coccyx and heel areas. The facility was then able to initiate preventative measures—including an air mattress and a heel protector—and, ultimately, no wounds developed.

In this case, the patient was spared the pain of developing a pressure ulcer, a medical concern so common that experts estimate that up to 35 percent of institutionalized older adults may be affected at any given time.

A Critical Advantage

The above incident is similar to occurrences at many nursing facilities

throughout the country, where an untold number of patients may be harboring the seeds of a pressure ulcer when they arrive on-site for an initial assessment. The difference between facilities that have the new technology

■ Patients may be harboring the seeds of a pressure ulcer when they arrive on-site.



and those that don't is that the ultrasound scanner now enables a facility to take the resident assessment process one step further.

This advantage is especially critical in long term care settings. In older adults, the skin has diminished epidermal thickness, dermal collagen, and tissue elasticity. The skin is also drier as a result of diminished sebaceous and sweat gland activity. Cardiovascular changes result in decreased tissue perfusion. Muscles atrophy, and bone structures become prominent. Diminished sensory perception and reduced ability to reposition oneself

contribute to prolonged pressure on the skin.

Pressure ulcers are also a common problem in many situations where patients are compromised. Issues such as peripheral vascular disease, diabetes, immobility, lack of nutrition, and bladder or bowel incontinence are some of the factors that can lead to pressure ulcer development. Other risk factors include shearing, friction, and cognitive impairment.

While many of these conditions cannot be cured, only controlled, Hawfields takes great pride and dedication in the detection and early prevention of pressure ulcers. Some of the preventative measures that are currently being used are air mattresses, heel protectors, turning and repositioning the patient, proper hygiene, and nutritional support.

Solution Emerges

Initially, it was an outside clinical consultant named Su Johnson who first suggested the scanning device to the administrator and director of nursing (DON) at Hawfields. The two had been seeking ways to prevent or minimize the rate of pressure ulcers at the facility, which had run as high as 11 percent in July 2005.

Johnson explained that the device could be used to "scan" certain parts of the body using ultrasound technology, which would allow for visualization of

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tissue beneath the dermis and epidermis layers of the skin.

The high-resolution scanning device can detect subtle changes in the fluid content of tissue. It has been demonstrated that the first ultrasound change in the patient's skin that occurs in the formation of a pressure ulcer is edema in the subcutaneous tissues. This is followed by dermal and subepidermal edema.

This information provides an early indicator of skin breakdown before the clinical signs of a pressure ulcer are seen.

Pressure relief and skin care can then be targeted before the ulcer has an opportunity to develop further.

Following Johnson's advice, the administrator and DON conducted extensive research before the scanner was eventually purchased by Hawfields at a cost of \$30,000. The manufacturer

also included extensive training on the device for RNs at the facility.

Enhances Nurse Assessment

The ultrasound scanner is used as a nursing assessment tool only. The scanned areas are not used for providing a diagnosis. An RN uses the scanner to assess patients on admission, readmission, and when there is a significant change in the patient's condition as determined by the RN or per physician directive. The RN evaluates the patient and determines when the scanner will be utilized.

The ultrasound technology does not replace the nurse's overall assessment of the patient's skin integrity, but it is an additional source of information during the assessment process. Examples of areas to be scanned include, but are not limited to: upper/middle/lower thoracic spine,

coccyx, sacrum, right/left buttock, and right and left lateral/medial/posterior heels. The results of the scanned sites are saved on discs. The images are made available for viewing by the attending physician, medical director, family members, or for the quality assessment committee's monitoring activities.

The ultrasound scanner "has more than met our expectation for reducing pain and suffering caused by preventable pressure ulcers," says Administrator Max Kernodle, noting that the facility has since bought a second scanner.

"There are times in which some wounds are preventable and other times that wounds are completely unavoidable. Regardless of the situation, it is the facility's mission to make every resident as comfortable and as high-functioning as possible," Kernodle says. Patients at Hawfields

Study Looks At Culture Change; Cites Enablers, Barriers To Successful Programs

Organizational culture change in a nursing facility entails the involvement of all levels of staff, patients, and community, according to a study published recently in both the *Health Care Management Review* and the *Nursing Administration Quarterly*. The purpose of the study was to discuss the barriers and enablers of changing organizational culture in three nursing facilities undergoing culture change initiatives and suggest actions for program enhancement.

Sixty-four staff members and 14 families from three culture-change facilities were interviewed to determine what barriers and enablers they may have faced during their facilities' implementation processes. Among the barriers discovered by the researchers were exclusion of nurses from culture-

change activities, perceived corporate emphasis on regulatory compliance and the bottom line, and high turnover of administrators and caregivers.

Enablers of nursing facility culture change included a critical mass of "change champions," shared values and goals, patient and family participation, and empowerment at the facility level, according to the study.

In addition to broad-based, facility-wide involvement, the study's authors recommended that successful culture change in a nursing facility entails aligning incentives and rewards with the new values, empowering individual homes to make decisions at the facility level, and working with corporate part-



ners to enable rapid transition and implementation of recommendations based on the findings. "We observed that greater levels of staff connection were associated with higher care plan specificity and innovation," the

study's authors said. "Connection of the frontline nursing staff was crucial for implementation of the formal care plan and spontaneous informal care planning responsive to changing resident needs."

The study was conducted through the Duke University Medical Center, Department of Medicine, Division of Geriatrics, and the Center for the Study of Aging and Human Development in Durham, N.C.

—Meg LaPorte

who have been helped by this technology have indicated an increased quality of life. Because such a high number of pressure ulcers has been prevented, patients have been able to continue with therapy and, at times, have had a more rapid discharge to home or to a lower level of care.

Dramatic Improvement

Though no cost/benefit figures have been compiled to date, the scanner's utility has already been realized through reduced treatment costs. The incidence of pressure ulcers at Hawfields had dropped to 2 percent in February 2007, from 7 percent in September 2005, and the nurses' treatment time has been better utilized in other direct-care patient issues such as teaching, documentation, and assessment-related procedures. Though preventative measures can be costly, they

are a vital part of the care and dignity of the patient.

Due in part to the decrease in incidence of pressure ulcers, liability insurance rates were decreased upon renewal. Incorporation of this new technology has drastically decreased the pain and suffering of the patients at Hawfields and possibly saved thousands of dollars in wound-treatment costs. It is even possible that the facility may have circumvented costly lawsuits.

Many organizations do not wish to see a decrease in their net profit—and the scanners are expensive, Kernodle says. However, there are certain circumstances in which a decrease in the facility's resource utilization group score is positive for the facility and its patients.

Profitability should not be a determining factor when it comes to the

care of patients, Kernodle says, and incorporating technology such as the ultrasound scanner can reduce negative outcomes for patients. There should be one goal in mind—the residents' well-being, he says.

“If technology is available that allows a facility to take the assessment process one step further, then it is the facility's responsibility to use that technology to the fullest extent possible,” says Kernodle. “Prevention of pressure ulcers is a better outcome for the patient. The unacceptable alternative would be extensive treatments for the patient and exposure to litigation for the facility.” ■

For More Information

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