

Innovative Medical Products: Primer on Pressure Ulcers

Article I: The new definitions and classification of pressure ulcers

(by Greg Prentiss, Gel Product Manager, Innovative Medical Products)

In an effort to improve the accuracy and consistency of our language, health care professionals with special expertise in diagnosing and treating skin problems have developed new terminology and a new classification system of pressure ulcers. Pressure ulcers have been known by many names in the past, names like decubitus ulcers, bed sores, or pressure sores. Some of these names lack accuracy and assign blame for the development of such skin problems on one's bed, which may or may not be the case. While we continue to learn about pressure ulcers, one thing that is clear is that they are caused by direct pressure applied to the skin, among many other factors. Pressure ulcers are a serious acute medical condition that can develop quickly, within a few hours, and not just over an extended period of time from lying in bed.

In addition to the critical issue of patient care, when a patient develops a pressure ulcer, there are not only the obvious medical consequences for the patient but also the hospital or long-term care facility which might be at significant financial risk as well. For example, if a patient is admitted to a healthcare facility (e.g., a nursing home) and is later found to have a pressure ulcer, the facility can be responsible for the entire cost of the treatment for the ulcer if it cannot prove the pressure ulcer was acquired prior to admittance. Medicare will not pay for the care of a pressure ulcer acquired within your facility as pressure ulcers are considered preventable when the proper procedures are utilized.

This article and the three to follow are intended to educate readers about such pressure ulcer risks and how to minimize them to the benefit of the patient. Starting with the new terminology and categories of pressure ulcers, the four articles will describe how to detect pressure ulcers, how to prevent them, and what are the product solutions available that can reduce the incidence of pressure ulcers.

According to the Agency for Health Care Policy and Research (see <http://www.ncbi.nlm.nih.gov/books/NBK12157/>), it has been estimated that the total national cost of pressure ulcer treatment exceeds \$1.335 billion, not to mention the higher costs in terms of human suffering. With so much at stake, many healthcare providers should be attentive to this growing problem, including nurses and nurse practitioners, physicians, family members, geriatricians, physical therapists, infection control officers, psychological support staff and dietitians in acute care, long-term care, rehabilitative, geriatric and home settings. Interested parties should also include healthcare administrators, risk managers and even legal counsel.

The National Pressure Ulcer Advisory Panel (see www.npuap.org) has redefined the definition of a pressure ulcer and the stages of pressure ulcers. NPUAP includes in the new definition the original four stages, plus two stages on deep tissue injury and

unstageable pressure ulcers. (Staging is an assessment system that classifies pressure ulcers based on the anatomic depth of soft tissue damage.) The new definition: “A pressure ulcer is localized injury to the skin and/or underlying tissue usually over a bony prominence, as a result of pressure, or pressure in combination with shear and/or friction.”

According to Michelle Kunsman, faculty member in the University of Hartford’s department of physical therapy, “The new definition and categories were drawn up to address the Medicare issue as to where and when a patient began to acquire a pressure ulcer – this determination having significant financial implications for the healthcare institutions involved. But more positively, these changes have also led to an increased focus by hospitals and long-term care facilities on what pressure ulcers are and how they can be detected and treated. These renewed educative efforts will ultimately benefit the patient, our ultimate goal.”

The new and realigned stages of pressure ulcers set out by the NPUAP are:

Suspected Deep Tissue Injury: This condition is indicated by a purple or maroon localized area of discolored intact skin or blood-filled blister due to damage of underlying soft tissue from pressure and/or shear. Indications may be tissue that is painful, firm, mushy, boggy, warmer or cooler as compared to adjacent tissue. Deep tissue injury may be difficult to detect in individuals with dark skin tones. Evolution may include a thin blister over a dark wound bed. The wound may further evolve and become covered by thick eschar (dead tissue). Evolution may be rapid exposing additional layers of tissue even with optimal treatment.

Stage I: Intact skin with non-blanchable 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 or cooler as compared to adjacent tissue. Stage I may be difficult to detect in individuals with dark skin tones and may indicate “at risk” persons.

Stage II: Partial thickness loss of dermis presenting as a shallow open ulcer with a red pink wound bed without slough. May also present as an intact or open/ruptured, serum-filled blister. This stage may also present as a shiny or dry shallow ulcer without slough or bruising (the latter indicates suspected deep tissue injury). This stage should not be used to describe skin tears, tape burns, perineal dermatitis, maceration or excoriation.

Stage III: Full thickness tissue loss. Subcutaneous fat may be visible but bone, tendon or 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 ulcer varies by an anatomical location. The bridge of the nose, ear, occiput and malleolus do not have subcutaneous tissue so Stage III ulcers can be shallow. In contrast, areas of significant adiposity can develop extremely deep Stage III pressure ulcers. Bone/tendon is not visible or directly palpable.

Stage IV: Full thickness loss with exposed bone, tendon or muscle. Slough or eschar may be present on some parts of the wound bed. Often includes undermining and tunneling. The depth of Stage IV pressure ulcers varies by anatomical location. Stage IV ulcers can extend into muscle and/or supporting structures (e.g., fascia, tendon or joint capsule) making osteomyelitis possible. Exposed bone/tendon is visible or directly palpable.

Unstageable: Full thickness tissue loss in which the base of the ulcer is covered by slough (yellow, tan, gray, green or brown) and/or eschar (tan, brown or black) in the wound bed. Until enough slough and/or eschar is removed to expose the base of the wound, the true depth (and, therefore, stage) cannot be determined. Stable (dry, adherent, intact without erythema or fluctuance) eschar on the heels serve as “the body’s natural (biological) cover” and should not be removed.

According to the NPUAP, pressure ulcers heal to progressively more shallow depth. They do not replace lost muscle, subcutaneous fat, or dermis before they re-epithelialize. Instead, the full thickness ulcer is filled with scar tissue composed primarily of endothelial cells, fibroblasts, collagen and extracellular matrix. A Stage IV pressure ulcer, therefore, cannot become a Stage III, Stage II and/or subsequently Stage I. In the view of the NPUAP, when a Stage IV ulcer has healed, it should be classified as a “healed Stage IV” pressure ulcer, not as a “Stage 0” pressure ulcer. If, however, a pressure ulcer re-opens in the same anatomical site, the ulcer resumes the previous staging diagnosis. In other words, “once a Stage IV, always a Stage IV.”

Conclusion

For patients, pressure ulcers represent a serious medical condition that, if not addressed, can destroy live tissue right down to the bone. Treatment can be extensive and very expensive with potentially severe financial consequences for the healthcare provider in charge of the patient.

Yet, for all their potentially negative consequences, pressure ulcers can be prevented and detected if the right procedures are in place and are rigorously and faithfully implemented by healthcare personnel. It then becomes a question of knowledge, awareness, planning and vigilance on the part of the healthcare provider.

In our second article, we will examine how to recognize pressure ulcers. This first line of defense will be important advice for those who are dedicated to caring for and protecting not only the patient but also the institution into whose care the patient has been entrusted.

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