

WOUND CARE



# Unavoidable Pressure Injury

## State of the Science and Consensus Outcomes

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### ABSTRACT

In the vast majority of cases, appropriate identification and mitigation of risk factors can prevent or minimize pressure ulcer (PU) formation. However, some PUs are unavoidable. Based on the importance of this topic and the lack of literature focused on PU unavoidability, the National Pressure Ulcer Advisory Panel hosted a multidisciplinary conference in 2014 to explore the issue of PU unavoidability within an organ system framework, which considered the complexities of nonmodifiable intrinsic and extrinsic risk factors. Prior to the conference, an extensive literature review was conducted to analyze and summarize the state of the science in the area of unavoidable PU development and items were developed. An interactive process was used to gain consensus based on these items among stakeholders of various organizations and audience members. Consensus was reached when 80% agreement was obtained. The group reached consensus that unavoidable PUs do occur. Consensus was also obtained in areas related to cardiopulmonary status, hemodynamic stability, impact of head-of-bed elevation, septic shock, body edema, burns, immobility, medical devices, spinal cord injury, terminal illness, and nutrition.

**KEY WORDS:** decubitus, pressure ulcer, skin break down, unavoidable pressure ulcer, wound.

### Background

Every individual is a complex being. For many individuals, clinical conditions create a complex combination of pathophysiological processes; in some instances, these complex processes result in the development of an unavoidable pressure ulcer (PU).<sup>1</sup> The formation of a PU is a multifaceted process that at times may not be averted even with excellent interprofessional prevention and treatment.<sup>2</sup> In fact, no single interventional strategy has been reported that consistently and reliably reduces PU incidence to zero.<sup>3</sup> Nevertheless, the goal of care is to do all that is possible, given each individual's unique intrinsic and extrinsic risk factors, to prevent the development of a PU.

Skin, the largest body organ, is dependent on the functioning of all other body organ systems for circulation, nutrition, and immune function.<sup>4</sup> External forces, including pressure and shear, lead to the deformation of the skin and underlying tissues. Tissue tolerance in response to these deformations varies among individuals. Even with appropriate preventive interventions to avoid formation of PUs, comorbid conditions can overwhelm the skin and diminish tissue tolerance.<sup>5</sup> Many known PU risk factors remain nonmodifiable by current treatment.<sup>3</sup> Based on a review of current science, it is reasonable to question whether a "floor" effect exists at which nonmodifiable, patient-related factors result in unavoidable PUs despite provision of evidence-based prevention and treatment strategies.<sup>6</sup> Nonmodifiable risk factors can be behavioral, medical treatment related, and/or physiologic.<sup>7</sup> Exemplars of nonmodifiable risk factors include (1) individual behaviors such as inability to decrease pressure on areas at risk secondary to nonadherence, refusal, or neurologic impairment; (2) medically required treatments such as fluid resuscitation resulting in anasarca or the administration of vasopressors (both of which may result in poor tissue perfusion); (3) nonexpandable medical devices and pathological states resulting in an

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