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Symposium
Introduction

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Threats to Skin Integrity in the Critically Ill Patient

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This symposium series takes a deep dive into threats to skin integrity in the critically ill patient. Threats can be mechanical, chemical, moisture-related, vascular, or infectious in nature and precipitate a range of manifestations including erythema, papules, pustules, denudement, ulceration, ischemia, desiccation, and eschar. Many of these manifestations are life threatening and complications from an underlying disease; others are initial indicators of a yet-undiagnosed condition.

As the largest organ of the body, skin is the body's first line of defense from the assaults of the environment. It serves critical, but often forgotten, functions such as preventing fluid and electrolyte loss, maintaining body temperature, and resisting pathogens. Essential features of the skin that help to maintain these functions are an intact stratum corneum, an acid pH of the epidermis, the presence of normal flora, lipid production from epidermal structures, and an intact dermal/epidermal junction. Aggressive adhesives, cleansing solutions without a neutral pH, topical antiseptics, friction, select medications (eg, antibiotics, vasopressors, corticosteroids, and anticoagulants), percutaneous tubes, intravenous catheters, body fluid drainage, incontinence, and prolonged soft tissue mechanical deformation (such as with a pressure injury) all jeopardize these essential skin features and predispose the patient to skin complications.

In the article by Howell et al, conditions such as medical adhesive–related skin injury (MARSI), skin failure, candidiasis, mucormycosis, Fournier gangrene, and herpes lesions are presented. For each condition, the authors provide risks, pathophysiology, and diagnostic criteria. Nursing interventions can prevent MARSI; astute nursing assessment and interventions are also critical in recognizing potential skin failure and the need to pursue palliative care. For the other discussed conditions, early detection and prompt implementation of appropriate interventions can reduce their severity and the risk of morbidity and mortality.

Critically ill patients today are at extremely high risk for pressure injuries (PrIs), both dependent position–related and device-related. Alderden and colleagues describe the risk of PrIs in patients in the medical intensive care unit who are COVID-19 positive and COVID-19 negative. In this article, the authors review the classification scheme for PrIs and risk factors and distinguish between mucosal and device-related PrIs. The authors also introduce a conceptual schema for PrI development in the critical care patient to illustrate

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the complex, dynamic nature of risk factors. The authors also describe recommendations for the prevention of non–device-related and device-related PrIs, including additional risk factors to consider beyond those noted in the Braden Scale.

Swoboda tackles the very timely topic of cutaneous manifestations occurring in patients diagnosed with COVID-19. This infection has introduced a variety of skin presentations that initially challenged clinicians in categorization and understanding of pathophysiologic process because their manifestations and distributions often mimic other conditions, such as deep tissue injury. Familiarity with these COVID-19–related skin conditions is critical to prevent misdiagnosis and provide appropriate care.

Finally, Bauer provides a detailed description of a variety of vascular and nonvascular changes that can occur in the extremities and digits of the critically ill patient. This article describes conditions such as digital ischemia from vasoactive medications or arterial emboli, as well as heparin-induced thrombocytopenia, vascular access–associated steal syndrome, and calciphylaxis. Bauer provides information to facilitate differentiation among these assaults to the extremities of the critically ill patient and recommends diagnostic and management techniques to reduce morbidity and mortality.

Information about the pathophysiological changes that occur in critically ill patients with potential for compromised skin integrity and corresponding therapeutic interventions is continually evolving. I hope you find the topics presented in this issue instructive to advancing your curiosity about and identification of threats to skin integrity in the critically ill patient.

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