

Preventing pressure injuries among ICU patients with COVID-19 requires extra vigilance

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Patients critically ill with COVID-19 are at exceptionally high risk for developing healthcare-associated pressure injuries (HAPris), and nurses

and other clinicians should be extra vigilant with assessments and protective interventions, according to a study published in *AACN Advanced Critical Care*.

"Pressure Injury Risk Assessment and Prevention in Patients With COVID-19 in the Intensive Care Unit" retrospectively examined pressure injury risk in a sample of 1,920 adult patients admitted to one of two intensive care units (ICUs) at a Utah teaching hospital between April 2020 and April 2021.

The study is part of the research team's ongoing work to develop ways to more accurately determine pressure injury risk among ICU patients. The researchers compared the predictive validity of the Braden Scale for Predicting Pressure Sore Risk for patients with COVID-19 with patients who were negative for the disease and were able to identify additional [risk factors](#) for device-related HAPrIs in critically ill patients with COVID-19.

Co-author Jenny Alderden, Ph.D., APRN, CCRN, CCNS, is an associate professor, Boise State University School of Nursing, Boise, Idaho.

"This study and others provide further evidence that patients with severe COVID-19 are at even greater risk for pressure injuries than the general ICU patient population," she said. "Prevention begins with accurately determining risk, and clinicians must consider additional factors beyond those assessed with common classification tools."

Since its development in 1987, the Braden Scale has become the most widely used tool in the United States to determine pressure injury risk across all care settings, but a growing body of literature shows that it lacks predictive validity in the ICU population, finding that nearly all ICU patients are at high risk.

A total of 1,920 patients were included in the study sample, including 407 diagnosed with COVID-19. In the entire sample, at least one HAPrI developed in 354 patients (18%), with a third of those considered device-related. Among the 407 patients with COVID-19, at least one HAPrI developed in each of 120 patients (29%), with nearly half (46%) considered device-related.

The research team looked at data related to demographics, diagnoses, comorbidities, hospital length of stay, treatment interventions, laboratory tests, nutrition and the results of skin assessments conducted by nurses.

Statistical analysis revealed two variables as potential risk factors for device-related HAPrIs: fragile skin and prone positioning during [mechanical ventilation](#).

The researchers also point to the potential for machine learning methods and explainable artificial intelligence to improve the accuracy of HAPrI risk assessments, as a way to provide additional information for clinicians to incorporate into their patient care decisions.

The article is one of several published in the journal's summer 2022 issue about threats to skin integrity in critically ill patients. Other articles in the symposia focus on:

- Cutaneous anomalies in ICU patients
- Cutaneous manifestations of COVID-19 in critical care
- Differences of lower extremity [skin](#) changes in the ICU setting.

More information: Jenny Alderden et al, Pressure Injury Risk Assessment and Prevention in Patients With COVID-19 in the Intensive Care Unit, *AACN Advanced Critical Care* (2022). [DOI: 10.4037/aacnacc2022335](https://doi.org/10.4037/aacnacc2022335)

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