

New algorithm predicts likelihood of acute kidney injury

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A new artificial intelligence-based tool can help clinicians predict which hospitalized patients face a high risk of developing acute kidney injury (AKI). The research will be presented online during ASN Kidney Week 2020 Reimagined October 19-October 25.

AKI is common among hospitalized patients and has a significant impact on morbidity and mortality. Unfortunately, it's difficult to predict which patients are most likely to develop AKI and could benefit from preventative treatments.

To address this, investigators at Dascena, Inc. developed and evaluated a prediction [algorithm](#) based on machine learning, a type of artificial intelligence. The algorithm analyzed 7,122 patient encounters and was compared with standard of care, the Sequential Organ Failure Assessment (SOFA) scoring system.

The Dascena algorithm outperformed SOFA, demonstrating superior performance in predicting [acute kidney injury](#) 72 hours prior to onset.

"Through earlier detection, physicians can proactively treat their patients, potentially resulting in better outcomes and limiting the severity of AKI symptoms," said Ritankar Das, MSc, president and chief executive officer of Dascena. "This presentation highlights our algorithm's ability to provide this earlier detection over traditional systems, which could profoundly impact AKI management in the hospital setting in the future."

Dascena has received Breakthrough Device Designation from the U.S. Food and Drug Administration for its AKI algorithm. This is the first Breakthrough Device Designation of a [machine learning](#) algorithm developed for the early detection of AKI.

More information: Study: "Development and Validation of a Convolutional Neural Network Model for ICU Acute Kidney Injury Prediction"

Provided by American Society of Nephrology

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