# Delayed Transfer To The ICU Increases Risk Of Death In Hospital Patients

Delayed transfer to the intensive care unit (ICU) in hospitalized patients significantly increases the risk of dying in the hospital, according to a new study from researchers in Chicago.

"Early intervention improves outcomes for many of the conditions that are indications for inpatient transfer to the ICU. This suggests that delaying ICU transfer may increase the risk of death in these patients," said lead author Matthew Churpek, MD, MPH, of the University of Chicago Medical Center. "Using a vital sign-based early warning score, the Cardiac Arrest Risk Triage (CART) score, we examined outcomes after delayed transfer to the ICU and found that each one hour increase in transfer delay was associated with a 7% increase in the odds of dying in the ICU."

The results of the study will be presented at the ATS 2013 International Conference.

The study included 2,166 patients at an academic hospital who were transferred from medical-surgical wards to the ICU. Of these patients, 425 (20%) died during admission.

In a subset of 260 patients transferred to the ICU within 6 hours of a first critical CART score value, 71(27%) died during hospital admission, compared with 65 of the 143 (45%) patients for whom ICU transfer was delayed for more than 6 hours($p<0.001$).

Further statistical analysis revealed that each one hour increase in delay in transfer to the ICU after reaching a critical CART score was associated with a significant ($p<0.001$)7% increase in the odds of ICU mortality, with the chance of dying in the hospital reaching 52% among patients in whom transfer to the ICU was delayed 18-24 hours after reaching the critical CART value.

"Use of an early warning score such as the CART score would allow for earlier identification of these patients and help decrease preventable in-hospital deaths associated with delayed transfer of ward patients to the ICU," said Dr. Churpek. "Further research may help determine what factors underlie delayed transfer to the ICU and whether earlier transfers can improve outcomes."

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