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Introduction:
Patient outcome after ICU transfer reflect a hospital’s post-ICU continuity of care. This study assessed impact of after-hour ICU transfer on patient outcome.

Methods:
Single-center, retrospective analysis of prospectively collected data between March 2016 to April 2017 at a tertiary care hospital in India. Patient data collected on all consecutive ICU admissions during study period. Patients were categorized according to ICU transfer time into daytime (08:00–19:59 hours) and after-hour (20:00–07:59 hours). Patients transferred to other ICUs or hospitals, died in ICU, or discharged home were excluded. Only first ICU admission was considered for outcome analysis. Primary outcome was hospital mortality; secondary outcomes included ICU re-admission and hospital length of stay (LOS). All analysis were adjusted for illness severity.

Results:
Of total 1857 patients admitted during study period, 1356 were eligible for study; 53.9% were males and 383 (28%) patients were transferred during after-hour. Mean age of two groups (daytime vs. after-hour 65.7±15.2 vs. 66.3±16.2 years) was similar (p=0.7). Mean APACHE IV score was comparable between those transferred during daytime vs. after-hour (45.6±20.4 vs. 46.8±22, p=0.05). Unadjusted hospital mortality rate of after-hour transfers was significantly higher compared to daytime transfers (7.1% vs. 4.1%; p=0.02). After adjustment with illness severity, after-hour discharges were associated with a significantly higher hospital mortality compared to daytime transfers (aOR1.7, 95% CI 1.1-2.8; p=0.04). The median duration of hospital stay though higher for after-hour discharges, was not statistically significant in adjusted analysis (aOR 1.1, 95% CI 0.8, 1.4; p=0.5). ICU readmission rate was also similar in two groups (aOR 1.6, 95% CI 0.9-2.7; p=0.06).

Conclusion:
After-hour transfers from ICU is associated with significantly higher hospital mortality. Hospital LOS and readmission rates are similar for daytime and after-hour transfers.