

# Continuous meropenem no benefit in critically ill patients with sepsis

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For critically ill patients with sepsis, continuous administration of

meropenem does not improve a composite outcome of mortality and emergence of pandrug- or extensively drug-resistant bacteria compared with intermittent administration, according to a study published online June 16 in the *Journal of the American Medical Association* to coincide with the annual Critical Care Reviews Meeting, held from June 14 to 16 in Belfast, Northern Ireland.

Giacomo Monti, M.D., from the IRCCS San Raffaele Scientific Institute in Milan, and colleagues conducted a randomized trial involving [critically ill patients](#) with sepsis or septic shock who had been prescribed meropenem by their treating clinicians at 31 intensive care units of 26 hospitals. Patients were randomly assigned to receive an equal dose of meropenem by continuous or intermittent administration (303 and 304 patients, respectively).

Overall, 61 percent of the patients had [septic shock](#). The researchers found that the primary outcome event (composite of all-cause mortality and emergence of pandrug-resistant or extensively [drug-resistant bacteria](#) at day 28) occurred in 47 and 49 percent of patients in the continuous and intermittent administration groups, respectively (relative risk, 0.96; 95 percent confidence interval, 0.81 to 1.13). None of the four secondary outcomes were statistically significant. There were no reports of adverse events of seizures or [allergic reactions](#) related to the study drug. In both groups, mortality was 42 percent at 90 days.

"The results of the current study suggest that continuous administration of meropenem does not improve clinically relevant outcomes in critically ill patients with sepsis, including long-term mortality," the authors write.

Two authors disclosed ties to the biopharmaceutical industry.

**More information:** Giacomo Monti et al, Continuous vs Intermittent Meropenem Administration in Critically Ill Patients With Sepsis, *JAMA*

(2023). [DOI: 10.1001/jama.2023.10598](https://doi.org/10.1001/jama.2023.10598)

Claire N. Shappell et al, Do Prolonged Infusions of  $\beta$ -Lactam Antibiotics Improve Outcomes in Critically Ill Patients With Sepsis?, *JAMA* (2023). [DOI: 10.1001/jama.2023.6483](https://doi.org/10.1001/jama.2023.6483)

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