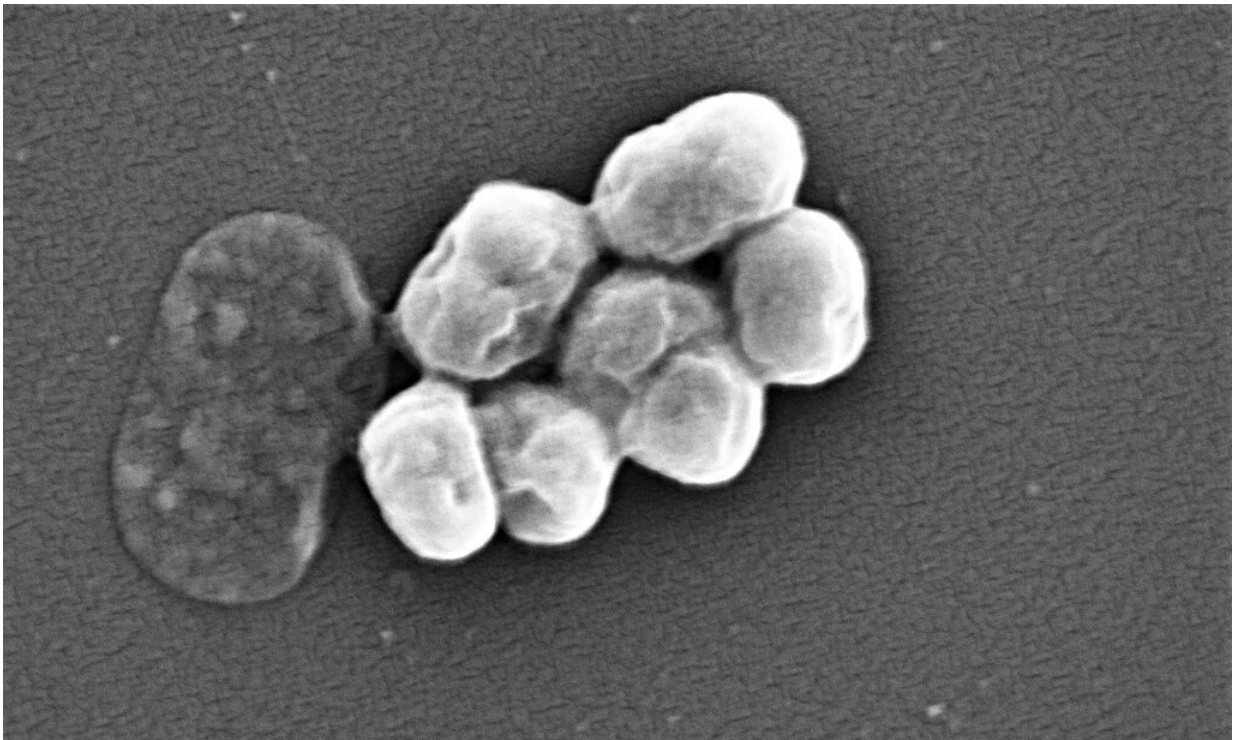


How to stop infections caused by carbapenemase-producing bacteria

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Acinetobacter baumannii. Credit: Vader1941 / Wikimedia / CC BY-SA 4.0

In 2017, the World Health Organization published a list of pathogens for which new drugs are urgently needed. *Acinetobacter baumannii* was ranked in the critical priority group along with other Gram-negative bacteria such as *Pseudomonas aeruginosa* and carbapenemase-producing Enterobacteria. Specifically, *A. baumannii* is responsible for more than

10% of hospital infections, often severe, such as pneumonia linked to mechanical ventilation, and bacteremias, especially in intensive care units.

The Bacterial and Antimicrobial Resistance group at the Institute of Biomedicine of Seville, led by Dr. José Miguel Cisneros, has published the results of a collaborative preclinical study focused on this specific pathogen. The study was conducted together with the Emerging Antibiotic Resistances group headed by Prof. Patrice Nordmann from the University of Fribourg, Switzerland.

As part of a line of research looking for effective new antimicrobial treatments against infections by carbapenemase-producing bacteria, and based on the results published in 2019 on the *in vitro* activity of combinations of two carbapenems against clinical strains of carbapenemase-producing *A. baumannii*, not clonally related, the group launched a study to evaluate *in vivo* the efficacy of imipenem plus meropenem in an experimental murine model of sepsis caused by clinical isolates of carbapenemase-producing *A. baumannii*. The results of this study show that the combination of imipenem plus meropenem could be effective in the treatment of infections caused by strains of carbapenemase-producing *A. baumannii* (OXA-23 and OXA-58).

More information: T Cebrero-Cangueiro et al. Efficacy of dual carbapenem treatment in a murine sepsis model of infection due to carbapenemase-producing *Acinetobacter baumannii*, *Journal of Antimicrobial Chemotherapy* (2020). [DOI: 10.1093/jac/dkaa487](https://doi.org/10.1093/jac/dkaa487)

Provided by University of Seville

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