

Letterkenny University Hospital - LUH Antimicrobial Prescribing Policy/Guidelines: Note Regarding Carbapenemase-Producing Organisms (CPO) and Carbapenemase Producing Enterobacteriaceae (CPE)

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- CPO are Gram-negative bacteria that carry genes for resistance to carbapenems (e.g. meropenem). They are often resistant to carbapenems and to many other antimicrobial agents.
- CPE are the most common subset of CPO. CPE are mostly *K. pneumoniae*, *E. coli*, and *Enterobacter spp.* but other species of Enterobacterales may also have this mechanism of resistance.
- Most patients who are colonised with CPE are identified from routine testing of rectal swabs or faeces. Colonisation means the organism is present but is not associated with infection.
- There is no antimicrobial treatment that has been shown to be useful in clearing gut colonisation with CPE or other CPO. There is good reason to believe that giving antimicrobial treatment to colonised patients supports persistent colonisation.
- When patients colonised with CPE or other CPO develop infection it may be caused by the CPE or by other organisms. If the patient is seriously ill the initial empiric treatment may need to cover for the CPE they are colonised with.
- Treatment options in cases of infection with CPE are limited. If a patient with CPE from a rectal screen and/or clinical sample develops clinical evidence of an infection **ALWAYS discuss antibiotic therapy with Microbiology**.

References:

1. [HPSC Guidelines for the Prevention and Control of Multi-drug resistant organisms \(MDRO\) excluding MRSA in the healthcare setting 2014](#)
2. [HPSC Carbapenemase Producing Enterobacterales \(CPE\) in Ireland: 2017](#)
3. [National Clinical Effectiveness Committees Guideline No. 30 Infection Prevention and Control](#)
<https://www.gov.ie/en/publication/a057e-infection-prevention-and-control-ipc/>
4. [Treatment of suspected or confirmed infection with Enterobacterales or Acinetobacter spp. Resistant to carbapenems. Surgical prophylaxis in the context of colonization with such organisms. a-guide-to-treatment-of-infection-with-carbapenem-resistant-organism-april-2019.pdf \(hse.ie\)](#)