

Imipenem (Imp)/Cilastatin (Cln)

DRUG CLASS: BETA-LACTAM – CARBAPENEM (IT IS RELATED TO THE PENICILLIN/ CEPHALOSPORIN FAMILY OF ANTIBIOTICS BUT IS CLASSIFIED AS BELONGING TO THE CARBAPENEM CLASS).

Activity against TB, mechanism of action, and metabolism	In vitro activity – very limited clinical experience. Given that imipenem is rapidly degraded by renal proximal tubule dipeptidases, it is used in combination with the dipeptidase inhibitor, cilastatin. (Conversely, meropenem a similar drug as imipenem is stable to renal dipeptidases and requires no cilastatin). Cilastatin is partially metabolized renally.
Dose	Adults: 1000 mg IV every 12 hours. (Dosed on the imipenem component). Should be given with clavulanate (available as amoxicillin/clavulanate) 125 mg every 8–12 hours. Children: Meropenem preferred. See <i>Meropenem</i> , drug sheet for dosing.
Route of administration	IV or IM (total recommended IM dose is not more than 1.5 gram/day and therefore not very practical for treatment of drug-resistant TB). No oral absorption.
Preparation	Lyophilized powder 1:1 ratio of imipenem and cilastatin. Vials available as 250 mg, 500 mg, 750 mg, or 1 gram and contain equal amounts of both drugs. (i.e. a “500 mg vial” contains 500 mg of imipenem and 500 mg cilastatin)
Storage	Powder should be kept at room temperature (15–25 °C); suspended product should be kept no more than 4 hours at room temperature or no more than 24 hours refrigerated.
CSF penetration	Good CSF penetration, but children with meningitis treated with imipenem had high rates of seizures (meropenem preferred for meningitis and for children).
Special circumstances	Use in pregnancy/breastfeeding: Little information is known regarding use in pregnancy; unknown safety during breastfeeding. Use in renal disease: Adjustment in dose based on severity of renal failure – for example, 750 mg every 12 hours for creatinine clearance 20–40 ml/min, 500 mg every 12 hours for creatinine clearance <20 ml/min. Dose after dialysis. Use in hepatic disease: Elevated liver function tests have been noted in up to 6% of patients, but no definite liver damage has been documented.
Adverse reactions	Common: Diarrhoea, nausea, or vomiting. Less common: Seizure (noted with CNS infection), palpitations, pseudomembranous colitis.
Contraindications	Carbapenem intolerance; meningitis (use meropenem rather than imipenem).
Monitoring	Symptomatic monitoring.

**Patient instructions
and alerting symptoms**

Make sure your health care provider knows if you are also taking ganciclovir or have allergy to penicillins or cephalosporins.

Instruct patients to inform their health care provider right away if any of the following occurs:

- Fast or irregular heartbeat
 - Seizures
 - Severe diarrhoea (watery or bloody)
 - Skin rash, hives, or itching
 - Swelling of the face, throat or lips
 - Wheezing or trouble breathing.
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