Meropenem Intravenous for Adults

Who can administer

May be administered by registered competent doctor or nurse/midwife

Important information

- Red-light antimicrobial: Requires pre-authorisation from Microbiology or ID prior to use 24 hours/7 days a week (**Exception:** neutropenic sepsis in patients with a penicillin allergy with a delayed onset, non-severe reaction).
- Meropenem is a carbapenem. **Avoid if** history of immediate or severe hypersensitivity reaction to **penicillins or cephalosporins**
- See under 'Dose' for adjustments required in **renal impairment**
- **Co-administration with valproate may result in a 60-100% decrease in valproic acid levels within two days** - therefore concurrent use is not recommended (ref 3)
    - In exceptional circumstances, where treatment options are extremely limited for a patient, following discussion with Microbiology/Infectious Diseases consultant, a carbapenem may be considered the only/best available treatment option
    - In this case, the consultant with primary responsibility for the patient may decide to proceed with carbapenem treatment for a patient on sodium valproate treatment based on a risk/benefit analysis and following consultation with a consultant neurologist
    - Consultant neurologist advice should be sought regarding the potential requirement for adjunct anticonvulsant therapy if the indication for valproate use is seizure control, and advice on clinical monitoring and therapeutic drug monitoring of anticonvulsant drug serum concentrations

Available preparations

Meropenem 500mg vial

Meropenem 1 gram vial

Reconstitution

If for IV injection:

- **Water for injections**
- 10ml per 500mg vial
- 20ml per 1g vial (10ml per 1g vial if fluid restricted) (unlicensed, ref 2)

If preparing an infusion:

- Can prepare with infusion solution from the infusion bag using a transfer device, if desired, or

reconstitute as above and add to an infusion bag

Infusion fluids

Sodium chloride 0.9% or Glucose 5%

Methods of intravenous administration

Can use either method of administration- choice depends on practicalities such as time available, fluid status of patient, etc.

Slow intravenous injection

- Administer over approximately 5 minutes
- Limited safety data for doses of 2g via this route

Intermittent intravenous infusion

- Add required dose to 100ml infusion fluid and administer over 15 to 30 minutes (ref 2)
- A 50ml infusion may be used for 1g dose only if required (eg fluid restriction) but the residual volume in the infusion line must be flushed through at the same rate to avoid significant underdosing

Dose in adults

Usual dose

- Give 1g every eight hours

Higher doses (e.g.2g every eight hours) for CNS or MDRO infection should be discussed with Micro/ID (ref 1)

Renal impairment (ref 1)

eGFR (ml/min/1.73m^2)	Dose	Frequency
26 to 50	500mg to 2g	Every twelve hours
10 to 25	500mg to 1g	Every twelve hours
less than 10	500mg to 1g	Every twenty-four hours
Renal replacement therapy	Consult pharmacy or specialist literature	

Liver impairment

- No dosage adjustment required
- See monitoring

Monitoring

- Patients with pre-existing liver disorders should have LFTs monitored during treatment with meropenem.

Storage

Store below 25^{0}C

References

Meropenem Fresenius Kabi 18/08/2022

1: GUH Antimicrobial Guidelines

2: Medusa Injectable medicines guide downloaded 28/01/2025

3. AST meeting 26th July 2023

Therapeutic classification

Carbapenem antibiotic