

MEROPENEM

Read in conjunction with [Disclaimer](#)

Formulary: Restricted	
Requires Neonatologist or Microbiologist review within 24 hours of initiation.	
Presentation	Vial: 500 mg
Classification	Bactericidal carbapenem antibiotic. Acts by interfering with bacterial cell wall synthesis. It is active against a broad spectrum of aerobic and anaerobic bacteria.
Indication	Treatment of severe infections including intra-abdominal infections, meningitis and other infections where multi-resistant infections are suspected or proven.
Special Considerations	• Renal impairment: Pharmacokinetic studies in patients with renal insufficiency have shown that the plasma clearance of meropenem correlates with creatinine clearance. Some references provide dose adjustment recommendations based on GFR for infants and children, however due to variability and difficulty in estimating GFR for preterm and term neonates, this information should only be used as a guide. See CAHS Fluid Balance and Elimination Guideline for normal GFR values for preterm and term neonates. Also see dose adjustment. • Cross reactivity may occur in patients with a history or hypersensitivity reactions to penicillins, carbapenems or cephalosporins. • Meropenem is NOT active against many resistant Gram-positive organisms such as MRSA and most <i>Staphylococcus epidermidis</i>. • Each 1 g of meropenem contains 3.92 mmol (90.2 mg) of sodium.
Monitoring	Renal function, liver function, full blood count.
Compatibility	Fluids: Sodium Chloride 0.9% (preferred), water for injection, glucose 5%. Refer to KEMH Neonatal Medication Guideline: Y-Site IV Compatibility in Neonates.
Side Effects	Common: Diarrhoea, nausea, vomiting, thrombophlebitis, rash, pruritus.
	Infrequent: Urticaria, eosinophilia, thrombocytopenia, neutropenia, abnormal liver function tests.
	Rare: Seizures, anaphylaxis.
Storage & Stability	Vial: Store at room temperature, below 25°C.



Presentation

Vial: 500 mg (KEMH)

Available from CIVAS (KEMH) : 25 mg/mL or
50 mg/mL for fluid restricted infants

Available from PCS (PCH): 50 mg/mL for all infants

Dosage

Intra-abdominal and non-CNS infections

Corrected Gestational Age	Postnatal Age	Dose	Frequency
Less than 32 weeks	Less than 14 days	20 mg/kg/dose	Every 12 hours
	14 days or older	20 mg/kg/dose	Every 8 hours
32 weeks or greater	Less than 14 days	20 mg/kg/dose	Every 8 hours
	14 days or older	30 mg/kg/dose	Every 8 hours

Meningitis

Corrected Gestational Age	Postnatal Age	Dose	Frequency
Less than 32 weeks	Less than 14 days	40 mg/kg/dose	Every 12 hours
	14 days or older	40 mg/kg/dose	Every 8 hours
32 weeks or greater	All ages	40 mg/kg/dose	Every 8 hours

Dose Adjustment

Renal impairment: Dose reduction and/or increased dosage interval recommended for patients with impaired renal function. No clear guidance/evidence on dose adjustment for neonates, consult microbiology and pharmacy.

Hepatic impairment: No adjustment required.

Preparation

Vial: 500 mg

Note: powder displacement volume of 500 mg vial is 0.4 mL.

25mg/mL concentration:

- Add 19.6 mL of compatible fluid to the meropenem vial.
- Shake to dissolve and let stand until clear.

Concentration now equal to 25 mg/mL.

50mg/mL concentration:

- Add 9.6 mL of compatible fluid to the meropenem vial.
- Shake to dissolve and let stand until clear.

Concentration now equal to 50 mg/mL.

Administration

IV infusion:

Infuse via syringe driver pump over 30 minutes.

Related Policies, Procedures, and Guidelines

Clinical Practice Guidelines:

[CAHS Sepsis: Neonatal](#)

[Meropenem Monograph - Paediatric](#)

Pharmaceutical and Medicines Management Guidelines:

[CAHS Neonatology: Medication Administration](#)

[WNHS Cold Chain Management for Medications and Vaccines](#)

[CAHS Medication Refrigerators and Freezers](#)

References

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