

# Meropenem

## 500mg & 1gram injection

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**Note:**

This guideline provides advice of a general nature. This statewide guideline has been prepared to promote and facilitate standardisation and consistency of practice, using a multidisciplinary approach. The guideline is based on a review of published evidence and expert opinion.

Information in this statewide guideline is current at the time of publication.

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Health practitioners in the South Australian public health sector are expected to review specific details of each patient and professionally assess the applicability of the relevant guideline to that clinical situation.

If for good clinical reasons, a decision is made to depart from the guideline, the responsible clinician must document in the patient's medical record, the decision made, by whom, and detailed reasons for the departure from the guideline.

This statewide guideline does not address all the elements of clinical practice and assumes that the individual clinicians are responsible for discussing care with consumers in an environment that is culturally appropriate and which enables respectful confidential discussion. This includes:

- The use of interpreter services where necessary,
- Advising consumers of their choice and ensuring informed consent is obtained,
- Providing care within scope of practice, meeting all legislative requirements and maintaining standards of professional conduct, and
- Documenting all care in accordance with mandatory and local requirements

### Dose and Indications

#### Use in consultation with Infectious Diseases team

#### Meningitis due to susceptible organisms and/or infections caused by *Pseudomonas* species

**Intravenous**

Age	Dose/Frequency
All ages	40mg/kg every 8 hours

Length of treatment should be guided by pathology and clinical picture; however in proven sepsis treatment should continue for a minimum of 7 days

#### Infection due to susceptible organisms where meningitis is excluded

**Intravenous**

Gestational Age (weeks) [gestational age at birth]	Postnatal age (days)	Dose/Frequency
<32	≤ 14	20mg/kg every 12 hours
	>14	20mg/kg every 8 hours
≥32	≤ 14	20mg/kg every 8 hours
	> 14	30mg/kg every 8 hours

Length of treatment should be guided by pathology and clinical picture; however in proven sepsis treatment should continue for a minimum of 7 days.



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## Preparation and Administration

Administer as an IV infusion. However, doses of 20mg/kg or 30mg/kg meropenem may be given as an IV bolus if necessary (e.g. restricted access and/or compatibility issues).

### Intravenous Infusion

There are **TWO STEPS** to process.

*If the meropenem **500mg vial** is available (preferred):*

**STEP ONE:** Add 9.6mL of water for injection to the meropenem 500mg vial and shake gently to dissolve (total volume of 10mL). The resulting solution contains 50mg/mL meropenem.

**STEP TWO:** Further dilute 2mL of the 50mg/mL meropenem solution with 3mL of water for injection (total volume of 5mL). The resulting solution contains 20mg/mL meropenem

*Otherwise, if the meropenem **1gram vial** is available:*

**STEP ONE:** Add 19.1mL of water for injection to the meropenem 1gram vial and shake gently to dissolve (total volume of 20mL). The resulting solution contains 50mg/mL meropenem.

**STEP TWO:** Further dilute 2mL of the 50mg/mL meropenem solution with 3mL of water for injection (total volume of 5mL). The resulting solution contains 20mg/mL meropenem

<b>Dose</b>	20mg	40mg	60mg	80mg	120mg	160mg
<b>Volume</b>	1mL	2mL	3mL	4mL	6mL	8mL

Infuse over 30 minutes

### Intravenous Bolus

Vial Strength	Volume of Water for Injection to add	Final Concentration of meropenem
500mg	9.6mL	50mg/mL
1gram	19.1mL	50mg/mL

<b>Dose</b>	10mg	20mg	40mg	60mg	80mg
<b>Volume</b>	0.2mL	0.4mL	0.8mL	1.2mL	1.6mL

Administer as a push over at least 5 minutes

## Compatible Fluids

Glucose 5%, glucose 10%, glucose/sodium chloride solutions, sodium chloride 0.9%



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## Adverse Effects

### Common

Diarrhoea, vomiting, rash, thrombocytosis, disturbances in liver function tests

### Infrequent

eosinophilia

### Rare

seizures, thrombocytopenia, neutropenia, agranulocytosis

## Monitoring

- > Periodic monitoring of full blood count and liver function tests recommended
- > Monitor renal function
- > Assess intravenous site for signs of inflammation

## Practice Points

- > Reconstituted solutions range in colour from clear and colourless to pale yellow
- > There is limited stability with meropenem and glucose 5%, glucose 10% or glucose/sodium chloride solutions, with loss of potency reported. If diluting or infusing through same line, the contact should be less than one hour.
- > Meropenem is a beta-lactam antibiotic. Do not use if previous anaphylactic reaction to beta-lactam antibiotic has been reported.
- > Give with caution in pre-existing renal impairment. Consider dose reduction if evidence of renal failure – consult with neonatologist / infectious diseases

## References

- > Cohen-Wolkowicz M, Poindexter B, Bidegain M, et al, Safety and effectiveness of meropenem in infants with suspected or complicated intra-abdominal infections, 2012, Clinical Infectious Diseases
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## Document Ownership & History

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03/2015	V3	SA Health Safety and Quality Strategic Governance Committee	Reviewed version
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