

Piperacillin-tazobactam

piperacillin 4g with tazobactam 0.5g 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

1 g = 1000 mg

Infection due to susceptible organisms

Monotherapy in the empirical treatment of necrotising enterocolitis

Intravenous

100 mg/kg/dose

Dose according to piperacillin content

Corrected Age (weeks) [Gestational Age PLUS Postnatal Age]	Postnatal age (days)	Frequency (hours)
< 30	≤ 28	every 12 hours
	>28	every 8 hours
30 to 36	≤ 14	every 12 hours
	>14	every 8 hours
37 to 44	≤ 7	every 12 hours
	>7	every 8 hours

Length of treatment should be guided by pathology and clinical picture



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Preparation and Administration

Intravenous

There are **TWO STEPS** to this process.

STEP ONE: Add 17 mL of Water for Injection to the vial (4000 mg piperacillin content) and shake gently to dissolve (to a total volume of 20 mL). The resulting solution contains 200 mg/mL piperacillin.

STEP TWO: Further dilute 1 mL of the 200 mg/mL piperacillin solution with 9 mL of compatible fluid (to a total volume of 10 mL). The resulting solution contains 20 mg/mL piperacillin.

Dose	50 mg	75 mg	100 mg	125 mg	150 mg	200 mg
Volume	2.5mL	3.75mL	5 mL	6.25 mL	7.5 mL	10 mL

Infuse over at least 30 minutes

Discard remaining solution

In severely fluid restricted infants, 200 mg/mL solution (STEP ONE ONLY) may be used

Compatible Fluids

Glucose 5%, sodium chloride 0.9%

Adverse Effects

Common

Diarrhoea, rash

Infrequent

Bronchospasm, angioedema, injection-site reactions

Rare

Black tongue, electrolyte disturbances (hypernatraemia or hypokalaemia due to sodium content of high parenteral doses), neurotoxicity, transient increases in liver enzymes and bilirubin, cholestatic jaundice, bleeding abnormalities (prolonged bleeding times and altered platelet aggregation)

Anaphylactic shock is not commonly seen in neonates

Monitoring

- > Periodic liver function tests, with prolonged treatment of more than 10 days
- > Review intravenous site for signs of extravasation.

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Practice Points

- > Intravenous penicillins and cephalosporins can inactivate intravenous aminoglycoside antibiotics (e.g., gentamicin). Preferably separate doses by 1 hour. If it is not possible to separate doses, flush the line well with sodium chloride 0.9%, before and after giving each medication.
- > Piperacillin may enhance the nephrotoxic effect of vancomycin
- > Piperacillin with tazobactam is the preferred monotherapy for gastrointestinal surgical conditions
- > This is a broad-spectrum antibiotic and is generally used on specialist advice

Document Ownership & History

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Approval Date	Version	Who approved New/Revised Version	Reason for Change
23/11/2022	V3	Domain Custodian, Clinical Governance, Safety and Quality	Formally reviewed as per 5-year scheduled timeline review.
08/2017	V2	SA Health Safety and Quality Strategic Governance Committee	Formally reviewed in line with 1-5 year scheduled timeline for review.
11/2012	V1	SA Maternal & Neonatal Clinical Network	Original SA Maternal & Neonatal Clinical Network approved version.

