



Piperacillin/tazobactam – Paediatric

Areas where Guideline applicable	All paediatric wards (H1, J1, J2)
Areas where Guideline not applicable	Adult wards, NICU
Keywords	Tazocin®, piperacillin, tazobactam, paediatrics, protocol, guideline, administration, drug, medication
Authorised Prescribers:	Registered medical officers
Indication for use	Empiric treatment following accepted guidelines or directed treatment of Infections caused by susceptible organisms GUIDANCE REGISTRATION REQUIRED WHEN PRESCRIBED
Clinical condition	THIS IS A RESTRICTED ANTIBIOTIC Guidance MS® registration must be done at the time of prescribing and the registration number entered in Medchart <ul style="list-style-type: none"> • Febrile neutropenia • Cystic fibrosis, acute exacerbation • Directed treatment on advice of Infectious Diseases or Microbiology
Contraindications	<ul style="list-style-type: none"> • Immediate hypersensitivity to any penicillin (such as anaphylaxis, however, consider avoiding in any allergic reaction to a penicillin) • Severe or life-threatening hypersensitivity reaction to any cephalosporin or carbapenem due to potential cross-reactivity
Precautions	<ul style="list-style-type: none"> • History of jaundice and/or hepatic dysfunction from piperacillin with tazobactam, ticarcillin with clavulanic acid, or amoxicillin with clavulanic acid • Non-immediate hypersensitivity to penicillins or history of a mild adverse drug event with a penicillin • Renal impairment – bleeding abnormalities more likely. Monitor renal function with prolonged use • Sodium restriction, heart failure – contains approximately; 64 mg sodium per gram piperacillin (Tazocin EF®) 54 mg sodium per gram piperacillin (PiperTaz Sandoz®, Tazopip®) • Coagulation disorder – increases risk of bleeding abnormalities • Seizures may occur with high doses • May cause hypokalaemia. Monitor electrolytes in patients with low potassium reserves and/or who are receiving cytotoxic therapy or diuretics. • Does not penetrate CSF and not recommended for meningitis

Dosage	Usual dose: - 100 mg/kg/dose of piperacillin every EIGHT hours (to a maximum of 4g piperacillin) Note: dose should be prescribed and calculated on piperacillin component. Endorsing this on the prescription will reduce confusion.
Duration of therapy	Duration is guided by the severity of infection and the patient's clinical and bacteriological progress.
Administration instructions	<ol style="list-style-type: none"> 1. Reconstitute with 17mL of diluent (sodium chloride 0.9% or water for injection) to produce 200 mg/mL piperacillin solution, total volume = 20 mL 2. Further dilute dose to 20 mg/mL of piperacillin for infusion. Suitable diluents include glucose 5%, sodium chloride 0.9%. Note: ONLY Tazocin EF® is compatible with Hartmann's 3. Intravenous infusion over 30 minutes* <p>*If proven pseudomonal infection, infuse over TWO hours (as per respiratory and oncology medical teams)</p>
Monitoring requirements	Monitor patient for clinical signs of improvement such as fever and biological markers of infection Monitor renal function and serum electrolytes, complete blood count and liver function; especially patients on prolonged courses
Management of complications	<ul style="list-style-type: none"> • Hypersensitivity reactions – seek medical officer for review of patient or rapid response as clinical symptoms dictate
Important Drug Interactions	<ul style="list-style-type: none"> • Piperacillin should be separated from aminoglycoside antibiotics by ONE hour. If unable to separate doses or for first dose in septic patients, flush the line well with sodium chloride 0.9% before and after each medication • Probenecid produces a longer half-life and lower renal clearance of piperacillin and tazobactam • Methotrexate excretion is reduced by penicillins • Non-depolarising neuromuscular blockers – activity may be prolonged by piperacillin • Anticoagulants – piperacillin/tazobactam may reduce clotting potential.
Basis of Guideline:	Australian Injectable Drug Handbook 7 th Edition SHPA Collingwood 3066 Paediatric Injectable Medicines Handbook. Westmead Kids, accessed 3/7/19 Piperacillin and tazobactam (PipTaz-AFT) Product Information. AFT Pharmaceuticals 22/11/17 Australian Medicines Handbook (AMH) Online version. Accessed via CIAP 3/7/19. NSW Health GL2015_013 Initial management of fever/suspected sepsis in oncology/transplant patients
Groups consulted in development of this guideline	Pharmacy, Infectious Diseases, Paediatrics

AUTHORISATION

Author (Name)	Michelle Jenkins
Position	Senior Pharmacist, paediatrics
Department	Pharmacy JHH
Department Contact (for ongoing maintenance of Guideline)	Ph 02 49213635

GOVERNANCE

Expiry date: (24 months from date of original approval)	06/08/2020
Ratification date by JHH Quality Use of Medicines Committee	08/08/2019
Validation	
Chairperson, JHH Quality Use of Medicines Committee	Signature _____ Name <u>R Pickles</u> Date <u>08/08/19</u>
Process for removal of previous version of Guideline completed	Signature <u>C Askie</u> _____ Name: <u>Askie</u> Date <u>09/09/19</u> (designated authority)
Approved Guideline distributed [#]	Signature <u>C Askie</u> _____ Name: <u>Askie</u> Date <u>09/09/19</u> (designated authority)
[#] Note Guideline must be distributed in a format which prevents modification e.g., PDF file	
Location	JHCH
Guideline Number	13.2
Version Number	3