OTHER NAMES
Tazocin®, PipTazo

CLASSIFICATION
Antibiotic – extended-spectrum penicillin and beta-lactamase inhibitor

*ALLERGY ALERT
See Contraindications/Cautions

INDICATIONS FOR IV USE

HEALTH CANADA APPROVED

- Treatment of various infections (e.g. intra-abdominal, lower respiratory tract and sepsis) due to susceptible organisms, typically piperacillin resistant beta-lactamase producing organisms.

SPECTRUM OF ACTIVITY: In addition to organisms sensitive to piperacillin
- Gram positive: piperacillin resistant beta-lactamase producing S. aureus (not methicillin resistant S. aureus).
- Anaerobes: piperacillin resistant beta-lactamase producing B. fragilis.

CONTRAINDICATIONS
* Hypersensitivity to piperacillin, other penicillins or beta lactamase inhibitors e.g. clavulanic acid or sulbactam.

CAUTIONS
* Hypersensitivity to cephalosporins.
* Patients with a history of sensitivity to multiple allergens. Serious and occasionally fatal hypersensitivity reactions have occurred.
* Asthma, hay fever or urticaria: hypersensitivity is more likely to occur.
* Cystic fibrosis: increased incidence of drug induced fever and rash.
* Renal impairment; dose reduction required.

DRUG INTERACTIONS:
- Aminoglycoside (e.g. gentamicin, tobramycin): piperacillin may chemically inactivate the aminoglycoside and reduce serum levels in patients with severe renal failure.
- Probenecid: concomitant administration will prolong the half lives of both piperacillin and tazobactam.

PREGNANCY/BREAST FEEDING: Contact pharmacy for most recent information.

ADMINISTRATION

<table>
<thead>
<tr>
<th>MODE</th>
<th>DIRECT INTO IV TUBING</th>
<th>INTERMITTENT INFUSION</th>
<th>CONTINUOUS INFUSION</th>
</tr>
</thead>
<tbody>
<tr>
<td>WHO MAY GIVE</td>
<td>All registered nurses</td>
<td>All registered nurses</td>
<td>All registered nurses</td>
</tr>
<tr>
<td>ADULT</td>
<td>Dilute in 50 – 100 mL minibag. Infuse over at least 30 minutes.</td>
<td>Limited information</td>
<td>No information</td>
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<tr>
<td>PAEDIATRIC</td>
<td>See syringe pump infusion chart for piperacillin</td>
<td>No information</td>
<td>No information</td>
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</tbody>
</table>

REQUIREMENTS
None

MONITORING
REQUIRED
None

RECOMMENDED
None

RECONSTITUTION
- Available as 2 g/0.25 g, 3 g/0.375 g and 4 g/0.5 g piperacillin/ tazobactam vials. Vials may be reconstituted with sterile water, normal saline, D5W, bacteriostatic water or bacteriostatic normal saline. A reconstitution device may be used.
- Volume of diluent required may vary with brand. See vial for exact volume of diluent and resulting concentration.
- Contains 2.35 mmol (54 mg) Na⁺ per gram of piperacillin.

References available in Pharmacy Nov 2001
COMPATIBILITY/STABILITY
- Stable in D5W or normal saline for at least 24 hours at room temperature or in the fridge.
- Reconstituted vial is stable for 12 hours at room temperature and 48 hours in the refrigerator.
- Incompatible with Lactated Ringers solution.
- For drug-drug compatibility contact Drug Information.

ADVERSE EFFECTS
HYPERSENSITIVITY
- Urticaria, wheezing, and anaphylaxis.
- Rash and drug fever.
GASTROINTESTINAL
- Diarrhoea and loose stools.
- Nausea, vomiting
- Pseudomembranous colitis, (rare).
CENTRAL NERVOUS SYSTEM
- Headache, dizziness, fatigue.
- Myoclonia, convulsive seizures and/or depressed consciousness, occur with high CNS concentrations.
MISCELLANEOUS
- Thrombophlebitis, pain at injection site.

DOSE
ADULT
- Usual total daily dose 12 g piperacillin /1.5 g tazobactam, given as 3 g/0.375 g every 6 hours.\(^1\)

PAEDIATRIC\(^3\) Doses based on piperacillin component.
- Infants < 6 months: 150 – 300 mg/kg/24 hours divided every 6 – 8 hours.
- Infants > 6 months and children: 300 – 400 mg/kg/ 24 hours divided every 6 – 8 hours.
- Cystic fibrosis: 350 – 600 mg/kg/24 hours divided every 4-6 hours.
- Max recommended dose: 24 g/24 hours.

NEONATE
- No information available at this time.

RENAL IMPAIRMENT ADJUSTMENTS\(^1\)
- \(\text{Creatinine clearance (mL/s)}\)
  - Creatinine clearance (mL/min)
  - Recommended dose
  - > 0.67
  - >40
  - 3 g/0.375 g every 6 hours
  - 0.33 – 0.67
  - 20-40
  - 2 g/0.25 g every 6 hours
  - < 0.33
  - <20
  - 2 g/0.25 g every 8 hours

HEPATIC IMPAIRMENT ADJUSTMENTS
- None required.\(^2\)

HEMO/PERITONEAL DIALYSIS
- Haemodialysis: 2 g/0.25 g every 8 hours, 0.67 g/0.08 g piperacillin/ tazobactam after dialysis.\(^1\)
- CAPD: 2 g/0.25 g every 8 hours.\(^4\)
- CAVH: 2 g/0.25 g every 6 hours.\(^4\)

MISCELLANEOUS
- Beta lactams have time dependent killing. The best predictor of bacterial kill and clinical efficacy is the amount of time drug levels at the site of infection exceed the minimum inhibitor concentration.\(^5,6\)
- With susceptible bacteria or persistent, profound neutropenia, continuous infusions may be used or dosage schedules may be adjusted to give lower doses more frequently. These methods are more effective than simply increasing the dose.\(^5,6\)
PIPERACILLIN SODIUM/ TAZOBACTAM SODIUM – REFERENCES


