

Alert	Not be used in infants < 4 weeks of age. Dose is expressed as trimethoprim (TMP) component. The Antimicrobial Stewardship Team recommends this drug is listed under the following category: Neonates: Restricted; Infants > 4 weeks of age: Oral — unrestricted and IV — restricted.										
Indication	Prophylaxis of urinary tract infections (UTI). Treatment of mild–severe infections including UTI and acute otitis media. Prophylaxis in HIV-exposed infants										
Action	Sulfamethoxazole is a sulfonamide that prevents the formation of dihydrofolic acid, a bacterial compound necessary for survival. Trimethoprim is a synthetic antibiotic that interferes with the production of folic acid by dihydrofolate reductase.										
Drug Type	Sulfonamide with antifolate										
Trade Name	Oral: Bactrim Oral Suspension [Roche]; Septrin Sugar Free Suspension [Aspen] IV: DBL Sulfamethoxazole 400 mg and Trimethoprim 80 mg Concentrate Injection BP [Hospira]										
Presentation	Oral liquid: Trimethoprim 8 mg/mL and sulfamethoxazole 40 mg/mL, 100 mL IV ampoule: Trimethoprim 16 mg/mL and sulfamethoxazole 80 mg/mL 5mL ampoule										
Dosage / Interval	Dosage recommendations are based on trimethoprim component. UTI prophylaxis PO: 2 mg TMP/kg/dose daily or 5 mg TMP/kg/dose twice weekly. Prophylaxis in HIV-exposed infants < 6 months of age To commence from 4–6 weeks of age at a dose of 20 mg trimethoprim once daily (not per kg basis) (equates to 2.5 mL oral liquid daily) Treatment of mild–severe infections (e.g. UTI, acute otitis media) Mild to moderate infections PO: 3–6 mg TMP/kg/dose 12 hourly (AAP Guidelines 2011). Severe infections IV: 2–3 mg TMP/kg/dose 6 hourly.										
Maximum daily dose											
Route	PO, IV										
Preparation/Dilution	PO: Oral liquid does not require preparation IV: Draw up 2 mL (32 mg trimethoprim and 80 mg sulfamethoxazole) and add 48 mL of sodium chloride 0.9%, glucose 5% or glucose 10% to make a final volume of 50mL with a concentration of 0.64 mg/mL of TMP. For severely fluid restricted neonates: Draw up 2 mL (32 mg trimethoprim and 80 mg sulfamethoxazole) and add 18 mL of glucose 5% to make a final volume of 20mL with a final concentration of 3.2 mg/mL of TMP and infuse ONLY VIA A CENTRAL LINE as it is an alkaline solution. Also, follow up with a flush of up to 20 mL.										
Administration	PO: Administer with feeds. Shake well before measuring dose. IV: Infuse over 60–90 minutes. Follow-up with a flush of up to 20 mL.										
Monitoring	Watch for skin reactions and blood dyscrasias. Monitor renal function and full blood count.										
Contraindications	Hypersensitivity to sulfonamides or trimethoprim. Infants < 4 weeks of age (manufacturer says < 8 weeks).										
Precautions	Use with caution in renal impairment. Dosage adjustment is required in renal impairment. Suggested adjustment(Product Info) is as follows (MIMS): <table border="1" data-bbox="502 1803 1385 2004"> <thead> <tr> <th colspan="2">Renal Impairment Dose Adjustments</th> </tr> <tr> <th>CrCl (mL/min)</th> <th>Dosage</th> </tr> </thead> <tbody> <tr> <td>Above 25</td> <td>Standard regimen</td> </tr> <tr> <td>15 to 25</td> <td>One-half the standard regimen</td> </tr> <tr> <td>Below 15</td> <td>Not recommended</td> </tr> </tbody> </table>	Renal Impairment Dose Adjustments		CrCl (mL/min)	Dosage	Above 25	Standard regimen	15 to 25	One-half the standard regimen	Below 15	Not recommended
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	Concomitant use of potassium sparing diuretics can lead to hyperkalaemia. In individuals with glucose-6-phosphate dehydrogenase deficiency, haemolysis may occur.
Drug Interactions	Risk of prolonged QT interval with concurrent use of chloral hydrate, erythromycin and fluconazole.
Adverse Reactions	Gastrointestinal upset (vomiting, diarrhoea). Severe dermatologic reactions, blood dyscrasias, hepatotoxicity. Prolonged use may result in fungal or bacterial superinfection. Prolonged QT interval, torsades de pointes, ventricular tachycardias have been reported in adults.
Compatibility	Fluids: Glucose 5%, glucose 10%, sodium chloride 0.9%, sodium chloride 0.45% Y site: Aciclovir, amino acid solutions, amphotericin B liposomal, lipid emulsions, metronidazole, milrinone, morphine, pancuronium, piperacillin-tazobactam, vecuronium, zidovudine.
Incompatibility	Y site: Amikacin, aminophylline, amiodarone, amphotericin b lipid complex, ampicillin, atropine, calcium chloride, calcium gluconate, cefazolin, cefotaxime, ceftazidime, ceftriaxone, chloramphenicol, clindamycin, dexamethasone, diazepam, diazoxide, digoxin, dobutamine, dopamine, adrenaline (epinephrine), erythromycin, fentanyl, fluconazole, folic acid, furosemide, ganciclovir, gentamicin, heparin, hydralazine, hydrocortisone, indometacin, insulin, isoprenaline, ketamine, lactated ringer's, lidocaine (lignocaine), methylprednisolone, midazolam, multiple vitamins injection, noradrenaline (norepinephrine), benzylpenicillin, phenobarbital (phenobarbitone), phenytoin, piperacillin, potassium chloride, propranolol, pyridoxine, ranitidine, sodium bicarbonate, tobramycin, urokinase, vancomycin.
Stability	IV: Start infusion immediately after diluting – infusion must be completed within 2 hours of preparation. Monitor for precipitation, particularly with concentrated infusions.
Storage	Store IV and oral preparations below 30°C. Do not refrigerate. Protect from light.
Special Comments	
Evidence summary	<p><u>Prophylaxis in vesicoureteric reflux</u></p> <p>The proportion of infants with high grade vesicoureteric reflux (VUR) among all infants with febrile UTIs is small. There is no statistically significant benefit of prophylaxis in preventing recurrence of febrile UTI/pyelonephritis in infants without reflux.¹</p> <p>There is benefit of prophylaxis in reducing the recurrence of infections in children with VUR but no change in renal scarring and concerns regarding multi-resistant strains among treated children.^{2,3}</p> <p><u>Treatment duration of infections</u></p> <p>McMullan et al reviewed the evidence for minimum intravenous and total antibiotic duration in children younger than 18 years with bacterial infections, comparing shorter courses with traditionally longer durations. In many infections, especially when clinical improvement is rapid, emerging data suggest that traditional long durations of intravenous antibiotics might be unnecessary and that intravenous to oral switch can occur earlier. In most of the other infections, evidence for routine longer courses is sparse.⁴ In a Cochrane review of childhood lower urinary tract infection, no difference in persistent bacteriuria or recurrence was noted between 2–4 days and 7–14 days of oral antibiotics. Results from a subsequent Cochrane review showed that a single-dose antibiotic was associated with more persistent bacteriuria than was 10 days of antibiotics, although there was no difference in symptom duration or recurrence. A large retrospective study of infants younger than 6 months found no difference in treatment failure between intravenous antibiotics for 3 days or less and 4 days or more.⁴⁻⁷</p> <p><u>Prophylaxis in HIV-exposed infants</u></p> <p>All HIV-exposed infants born to mothers living with HIV must receive co-trimoxazole prophylaxis, commencing at 4–6 weeks of age (or at first encounter with the healthcare system) and continued until HIV infection can be excluded.⁸</p>
References	1. Roberts KB; Subcommittee on Urinary Tract Infection, Steering Committee on Quality Improvement and Management. Urinary tract infection: clinical practice guideline for the diagnosis and management of the

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