SULPHAMETHOXAZOLE AND TRIMETHOPRIM (Oral) (previously known as cotrimoxazole)

Trade Name	Deprim
Class	Antibiotic, sulphonamide derivative + folate antagonist
Mechanism of Action	Sulfamethoxazole interferes with bacterial folic acid synthesis and growth. Trimethoprim inhibits enzymes in the folic acid pathway.
Indications	**Indication 1:** Prophylaxis of **urinary tract infections** in those neonates known to have antenatal renal dilatation or other predisposing factors **Indication 2**: infections sensitive to cotrimoxazole **Indication 3:** Prophylaxis / treatment of **Pneumocystis carinii**
Contraindications	Jaundice - increases risk of kernicterus. Sulfamethoxazole competes for protein binding sites usually available to bilirubin. G6PD deficiency - increased risk of haemolytic anaemia
Supplied As	Paediatric suspension: 240mg/5mL (200mg sulfamethoxazole and 40mg trimethoprim in 5mL)
Dilution	N/A
Dosage / Interval	All dose references in this profile relate to 'cotrimoxazole' but must be charted as the combination of sulphamethoxazole and trimethoprim **Indication 1: Urinary Tract Infection Prophylaxis**: 0.25mL/kg of paediatric suspension daily This is equivalent to 12mg/kg of the total drug: (ie. 10mg/kg sulfamethoxazole and 2mg/kg trimethoprim) **Indication 2: Infections sensitive to cotrimoxazole** 24mg/kg/dose every 12 hours **Indication 3: Pneumocystis carinii** **Prophylaxis:** 450mg/m^2 (max 960mg) twice a day for 3 days of the week **m^2 = (0.05 x wt(kg)) + 0.05** **Treatment:** 60mg/kg 12 hourly for 14 days May be given IV (see IV protocol)
Administration	Oral – shake well before use

Compatible With	N/A
Incompatible With	N/A
Interactions	Sulfamethoxazole increases serum concentrations of medicines metabolised by 2C9 and 2C19 eg. phenytoin, warfarin. Concurrent use of trimethoprim with spironolactone may cause hyperkalaemia. Sulfamethoxazole with trimethoprim reduces renal clearance of zidovudine.
Monitoring	Nil
Stability	6 months after opening or manufacturer's expiry whichever is shorter.
Storage	Store below 25 ^{o}C, protect from light
Metabolism	Eliminated in the urine. Protein binding 68%.
Adverse Reactions	Skin rashes, stop at first sign of rash due to risk of Stevens Johnson Syndrome. Vomiting, cough, blood dyscrasias, hepatitis
Metabolism	Bioavailability = 90-100% Time to peak concentration 1-4 hours Half-life: sulfamethoxazole = 9-12hrs; trimethoprim = 6-11hrs Hepatic metabolism via 2C9, oxidation, hydroxylation, acetylation and glucuronidation pathways. Excreted by the kidneys
Comments	Intravenous administration not used in newborn infants except on consultant advice for treatment of Pneumocystis carinii
References	1. BNF for Children 2010-11 2. NZHPA Notes on Injectable Drugs 6th edition. 2010 3. Medicines for Children, RCPCH, 1999 4. Neofax, 2009 5. www.medsafe.govt.nz
Updated By	Dr D Gray May 2000 P Schmidt, B Robertshawe February 2006 A Lynn, B Robertshawe Oct 2007, June 2010 A Lynn, B Robertshawe June 2012 (re-order profile) A Lynn, M Wallenstein, B Robertshawe September 2020 update name