# SULPHAMETHOXAZOLE AND TRIMETHOPRIM (Oral)

| | |
|---|---|
| **Trade Name** | Deprim® Remedica Ltd. (distributed by AFT Phamaceuticals) |
| **Class** | Antibiotic, sulphonamide derivative + folate antagonist |
| **Mechanism of Action** | Sulfamethoxazole interferes with bacterial folic acid synthesis and growth.<br>Trimethoprim inhibits enzymes in the folic acid pathway. |
| **Indications** | **Indication 1**: Infections sensitive to sulphamethoxazole/trimethoprim<br>**Indication 2:** Prophylaxis / treatment of **Pneumocystis carinii** |
| **Contraindications** | Jaundice - increases risk of kernicterus. Sulfamethoxazole competes for protein binding sites usually available to bilirubin.<br>G6PD deficiency - increased risk of haemolytic anaemia |
| **Supplied As** | Paediatric suspension: 240mg/5mL<br>(200mg sulfamethoxazole and 40mg trimethoprim in 5mL) |
| **Dilution** | N/A |
| **Dosage / Interval** | All dose references in this profile relate to the combined product rather than the trimethoprim content and must be charted as the combination of Sulphamethoxazole and Trimethoprim<br>**Indication 1: Infections sensitive to Sulphamethoxazole / Trimethoprim**<br>24mg/kg/dose every 12 hours<br>**Indication 2: Pneumocystis carinii**<br>**Prophylaxis:** 450mg/m$^2$ (max 960mg) twice a day for 3 days of the week<br>**m$^2$ = (0.05 x wt(kg)) + 0.05**<br>**Treatment:** 60mg/kg 12 hourly for 14 days<br>May be given IV (see IV protocol) |
| **Administration** | Oral – shake well before use and give dose with a feed |
| **Compatible With** | N/A |
| **Incompatible With** | N/A |
| **Interactions** | Sulfamethoxazole increases serum concentrations of medicines metabolised by 2C9 and 2C19 eg. phenytoin, warfarin.<br>Concurrent use of trimethoprim with spironolactone may cause hyperkalaemia.<br>Sulfamethoxazole with trimethoprim reduces renal clearance of zidovudine. |

| | |
|---|---|
| **Monitoring** | Renal function, Full blood count |
| **Stability** | 6 months after opening or manufacturer's expiry whichever is shorter. |
| **Storage** | Store below 25 °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.<br>Vomiting, cough, blood dyscrasias, hepatitis |
| **Metabolism** | Bioavailability = 90-100%<br>Time to peak concentration 1-4 hours<br>Half-life: sulfamethoxazole = 9-12hrs; trimethoprim = 6-11hrs<br>Hepatic metabolism via 2C9, oxidation, hydroxylation, acetylation and glucuronidation pathways.<br>Excreted by the kidneys |
| **Comments** | **Note**: In Christchurch we dose based on combined product ie trimethoprim plus sulfamethoxazole however some centres quote dose based on trimethoprim content alone. Check dosing advice carefully.<br>Oral liquid contains: Trimethoprim 8 mg/mL and Sulfamethoxazole 40 mg/mL, 100 mL bottle<br>Intravenous administration not used in newborn infants except on consultant advice for treatment of Pneumocystis carinii<br><br>Excipients in Deprim®: colour (e124), raspberry flavour E_0026934, carmellose sodium, citric acid, dispersible cellulose, glycerol, sodium citrate, polysorbate 80, purified water , syrup and preservative: sodium propyl hydroxybenzoate and sodium methylhydroxybenzoate. |
| **References** | 1. BNF for Children 2010-11<br>2. Medicines for Children, RCPCH, 1999<br>3. Neofax, 2009<br>4. www.medsafe.govt.nz<br>5. www.nzfc.nz<br>6. www.anmfonline.org |
| **Updated By** | Dr D Gray May 2000<br>P Schmidt, B Robertshawe February 2006<br>A Lynn, B Robertshawe Oct 2007, June 2010<br>A Lynn, B Robertshawe June 2012 (re-order profile)<br>A Lynn, M Wallenstein, B Robertshawe September 2020 update name<br>A Lynn, B Robertshawe July 2023 (routine update)<br>A Lynn Aug 2023 (remove renal prophylaxis)<br>A Lynn, B Robertshawe June 2024 (add comment on content) |