ERYTHROMYCIN

<table>
<tr><td>Trade Name</td><td>E-Mycin (ethylsuccinate) Oral (Alphapharm)
Erythrocin (lactobionate) IV (AFT Pharmaceuticals)</td></tr>
<tr><td>Class</td><td>Macrolide antibiotic</td></tr>
<tr><td>Mechanism of Action</td><td>Has bacteriostatic and bactericidal effects, partially by inhibiting protein synthesis. Motilin receptor agonist and induces stomach and small intestine motor activity.</td></tr>
<tr><td>Indications</td><td>Indication 1: Treatment of infections caused by Chlamydia Ureaplasma, Mycoplasma.
Indication 2: Substitute for penicillin if significant allergy
Indication 3: Prophylactic treatment for Bordetella pertussis.
Indication 4: To treat gastric stasis or gut dysmotility</td></tr>
<tr><td>Contraindications</td><td>Hypersensitivity to erythromycin. Liver impairment
In patients on cisapride, risk of life threatening arrhythmias.</td></tr>
<tr><td>Supplied As</td><td>Oral: Erythromycin ethylsuccinate 200mg/5mL and 400mg/5mL
IV: Erythromycin lactobionate 1g vial</td></tr>
<tr><td>Dilution

Two dilution steps required</td><td>Oral: Prepare suspension as per manufacturers instructions
IV:
<table>
<tr><th>Drug</th><th>Water Added</th><th>Volume</th><th>Concentration</th></tr>
<tr><td>1g</td><td>20mL</td><td>20mL</td><td>50mg/mL</td></tr>
</table>
Then further dilute by taking 1mL (50mg) and diluting with 9ml of sterile water to give a final concentration of 5mg/mL</td></tr>
<tr><td>Dosage</td><td>Indication 1/2: 12.5 mg/kg/dose for 14 days
Indication 3: 10mg/kg/dose for 14 days
Indication 4: 3 mg/kg/dose</td></tr>
<tr><td>Interval</td><td>6 hourly</td></tr>
<tr><td>Administration</td><td>Oral: Shake well before giving,
(administration with food increases absorption)
IV: Infusion over 60min</td></tr>
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Compatible With	**Solution:** 0.9% sodium chloride and sterile water for injection. **Terminal Y- site**: aciclovir, amiodarone, famotidine, heparin, lidocaine, lorazepam, magnesium sulfate, midazolam, morphine, nicardipine, penicillin G, pentobarbital, potassium chloride, ranitidine, sodium bicarbonate, and zidovudine.
Incompatible With	**Solution:** dextrose 5% and 10% if exposed for longer than 2 hours, unless dextrose is buffered with sodium bicarbonate **Terminal Y-site:** ampicillin, ceftazidime, chloramphenicol, flucloxacillin, fluconazole, frusemide, metoclopramide
Interactions	Erythromycin is a strong inhibitor of CYP3A4 and has the capacity to significantly increase serum concentrations of drugs which are metabolised by this enzyme eg amiodarone amlodipine, ciclosporin, cisapride, dexamethasone, hydrocortisone, midazolam, sildenafil, theophylline. Conversely carbamazepine and rifampicin may induce metabolism of erythromycin and reduce erythromycin serum concentrations. Erythromycin can cause QT interval prolongation and ventricular arrhythmias if administered too rapidly or used in combination wih other medicines that also cause this eg cisapride, domperidone, fluconazole, sildenafil, Loop and thiazide diuretics may cause hypokalaemia leading to increased risk of QT interval prolongation.
Monitoring	Monitor heart rate and blood pressure during IV administration Routine monitoring of electrolytes to avoid hypokalaemia or hypomagnesaemia. Watch for abdominal discomfort
Stability	**Oral:** Prepared suspension stable for 10 days. **IV:** Discard opened vial immediately after use Discard unused reconstituted 5mg/mL solution immediately Use a new vial to draw up each dose
Storage	**Oral:** Store in the fridge **IV:** Unopened vials store at <25 ^{o}C

Adverse Reactions	**Oral:** nausea, vomiting, oral candida, cholestatic jaundice hypertrophic pyloric stenosis (RR 0.4%). **IV:** bradycardia, hypotension, hypertrophic pyloric stenosis, (RR = 0.4%), intrahepatic cholestasis, loose stools, hearing loss (reversible), venous irritation.
Metabolism	Half life of 2hrs. Protein binding 75 –90%. Drug penetrates CNS poorly, concentrates in liver, bile. Demethylated in liver. Secreted via the bowel.
References	1. Neofax, 1999 2. Medicines for Children, RCPCH, 1999 3. Acta Paediatrica 87(10) 1079 – 84 4. Lancet 1999; 354, 2101 5. Trissel LA, Handbook of Injectable Drugs, ASHSP 2001 6. BNF for Children 2011-2012* 7. www.ANMFonline.com 8. nzfc in www.nzf.org.nz 9. Murchison L, De Coppi P, Eaton S. Post-natal erythromycin exposure and risk of infantile hypertrophic pyloric stenosis: a systematic review and meta-analysis. Pediatr Surg Int. 2016;32:1147-52
Updated By	Nicola Austin Mar 01, May 02 P Schmidt, B Robertshawe Dec 2004 A Lynn, B Robertshawe September 2009, August 2010 A Lynn, B Robertshawe Oct 2012 (re-order profile,2 dilutions, discard vial) A Lynn, B Robertshawe Feb 2017 change of liquid supplier & expiry A Lynn, M Wallenstein, B Robertshawe March 2021 (review/update)