METRONIDAZOLE

<table>
<tr><td>Trade Name</td><td>Metronidazole Infusion (Baxter):
Flagyl S® Suspenson (Sanofi –Aventis)</td></tr>
<tr><td>Class</td><td>Antibiotic</td></tr>
<tr><td>Mechanism of Action</td><td>Inhibits protein synthesis in susceptible organisms by breaking DNA strands and interfering with helical DNA structure.</td></tr>
<tr><td>Indications</td><td>1. Treatment of anaerobic infections, especially those due to Bacteroides species
2. Treatment of serious intraabdominal infections / NEC
3. Clostridium.difficile colitis
4. Gut bacterial overgrowth</td></tr>
<tr><td>Contraindications</td><td>Prior drug allergy to metronidazole.
Use with caution in patients with history of past blood dyscrasia, seizures, renal or hepatic impairment.</td></tr>
<tr><td>Supplied As</td><td>IV: 500mg/100mL (ready to use)
Oral: 200mg/5mL suspension (Shake well)</td></tr>
<tr><td>Dilution</td><td>None required.</td></tr>
<tr><td>Dosage</td><td>Indications 1,2,3:
Loading dose: 15mg/kg/dose
Maintenance dose: 7.5 mg/kg/dose
Indication 4:
10mg/kg/dose orally every 12 hours for 2 weeks
Alternating with 2 weeks of oral gentamicin</td></tr>
<tr><td>Interval (1)</td><td>Indications 1,2,3:
<table>
<tr><th>Corrected GA</th><th colspan="4">Dose Interval by Postnatal Age (days)</th></tr>
<tr><td><30 weeks</td><td>Day 0-28</td><td>48 hrly</td><td>Day >28</td><td>24 hrly</td></tr>
<tr><td>30-36+6 weeks</td><td>Day 0-14</td><td>24 hrly</td><td>Day >14</td><td>12 hrly</td></tr>
<tr><td>37-44 weeks</td><td>Day 0-7</td><td>24 hrly</td><td>Day >7</td><td>12 hrly</td></tr>
<tr><td>≥45 weeks</td><td colspan="2"></td><td>All days</td><td>8 hrly</td></tr>
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<tr><td>Administration</td><td>IV infusion over 60 mins.
Oral: best absorbed if given 1 hour before a feed</td></tr>
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Compatible With	**Solutions:** 0.9% sodium chloride, 5% dextrose*, dextrose saline, * recommend to avoid combination with dextrose 10% due to high osmolality of resulting solution
	Terminal Y-site: Aciclovir, adrenaline, amikacin, aminophylline, amiodarone, atenolol, azithromycin, calcium chloride, calcium gluconate, cefazolin, cefepime, cefotaxime, ceftazidime, cefuroxime, cimetidine, ciprofloxacin, clarithromycin, clindamycin, dexamethasone, dexmedetomidine, digoxin, dobutamine, dopamine, erythromycin, fluconazole, furosemide, ganciclovir gentamicin, heparin, hydrocortisone, imipenem, insulin, ketamine labetalol, lidocaine, lipid, magnesium sulphate, meropenem, methylprednisolone, metoclopramide, midazolam, milrinone,morphine,naloxone, noradrenaline, pancuronium, phenobarbital, piperacillin, potassium chloride, potassium phosphate, ranitidine, salbutamol, sodium phosphate,sulfamethoxazole/trimethoprim,tobramycin, TPN, vancomycin.
Incompatible With	Amphotericin B, diazepam, paracetamol, phenytoin, propofol. No information is available on compatibility with omeprazole Do not add any other medication directly into metronidazole bag or syringe.
Monitoring	Not available in Christchurch. Check WBC and differential.
Stability	**IV:** Discard premade bag after each dose Use a new bag for each dose as bags are not made for multiple use **Oral:** Expiry for suspension = 28 days after opening
Storage	Room temperature. Do NOT refrigerate. Protect from direct sunlight.
Adverse Reactions	Toxicity causes nausea and vomiting, neutropenia, and rarely seizures. Skin rashes and thrombophlebitis may occur. Discontinue if peripheral neuropathy occurs.
Metabolism	Well absorbed after oral administration with peak serum concentrations 1-3 hours. Distribution in all body tissues throughout the body is excellent. Metabolised in liver (term infants and preterm exposed to steroids). Excreted in urine both unchanged drug and metabolites.
Comments	Carcinogenic in rodents and therefore not approved by FDA for paediatric use. Not recommended for use in dextrose 10% due to high osmolarity. Each 100mL of metronidazole infusion contains 13.5mmol sodium.

References	1. Neofax 2005 + Neofax in www.micromedexsolutions.com 2. Trissell Handbook of injectable Drugs in www.micromedexsolutions.com 3. NZHPA Notes on injectable Drugs www.noids.nz 4. Cano SB, Glogiewicz FL, Storage requirements for metronidazole injection, *Am J Hosp Pharm* 1986,43(12):2983-5 5. www.anmfonline.org
Updated	A Lynn, B Robertshawe June 2007 A Lynn, B Robertshawe September 2009 A Lynn, B Robertshawe Nov 2012 (re-order profile, discard bag) Jan 2013 Dosing A Lynn B Robertshawe Oct 2021 (routine update) A Lynn, A Day, B Robertshawe Feb 2024 (bacterial overgrowth indication)