OMEPRAZOLE

<table>
<tr><td>Trade Name</td><td>Omeprazole Injection (Mylan)
Omeprazole Oral Liquid (BIOMED)
Omeprazole Actavis Capsules (Teva Pharma)</td></tr>
<tr><td>Class</td><td>Gastric acid secretion inhibitor, proton pump inhibition.</td></tr>
<tr><td>Mechanism of Action</td><td>Suppresses gastric acid secretion by inhibiting the parietal cell hydrogen-potassium ATPase, the enzyme responsible for the final step in the secretion of hydrochloric acid.</td></tr>
<tr><td>Indications</td><td>Gastro-oesophageal reflux with oesophagitis refractory to other treatments</td></tr>
<tr><td>Contraindications</td><td>Caution in patients with hepatic impairment</td></tr>
<tr><td>Supplied As</td><td>Injection: Supplied as freeze dried powder 40mg to be reconstituted then diluted to a final solution containing
400 microgram / mL see directions below

Suspension: 2 mg / mL BIOMED

Capsules: 10 mg, 20 mg, 40mg</td></tr>
<tr><td>Dilution

TWO dilution steps required for IV use</td><td>IV:

Step 1. Reconstitute the vial
<table>
<tr><th rowspan="2">Drug</th><th>Add Diluent</th><th rowspan="2">Total Volume</th><th rowspan="2">Concentration</th></tr>
<tr><th>0.9% sodium chloride</th></tr>
<tr><td>40mg
(dry powder)</td><td>5 mL</td><td>5 mL</td><td>8 mg / mL</td></tr>
</table>
Step 2. Further dilute the 8 mg/mL solution in step 1
<table>
<tr><th rowspan="2">Drug</th><th>Add Diluent</th><th rowspan="2">Total Volume</th><th rowspan="2">FINAL CONCENTRATION</th></tr>
<tr><th>0.9% sodium chloride</th></tr>
<tr><td>4mg = 0.5mL</td><td>9.5 mL</td><td>10 mL</td><td>400 microgram/mL</td></tr>
</table>
Oral : No dilution required</td></tr>
<tr><td>Dosage</td><td>IV: 500 mcg/kg/dose (must be reviewed after 72 hours)

Oral:1 to 3 mg/kg/dose</td></tr>
<tr><td>Interval</td><td>Once daily usually in the morning</td></tr>
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Administration	**IV:** Infuse over 30 minutes - do not give as a direct IV bolus Orally or via nasogastric tube. For best effect give 15-30 minutes before a feed.
Compatible With	**Solutions:** Sodium chloride 0.9%, dextrose 5% Do not mix with other medications – very limited compatibility data available
Incompatible With	Do not mix with other medications
Interactions	Omeprazole may increase serum concentrations of phenytoin, digoxin, diazepam, clarithromycin, fluconazole May cause hypomagnesaemia, use with caution in combination with digoxin and diuretics. Omeprazole reduces absorption of ketoconazole. Fluconazole may reduce omeprazole concentrations. Absorption of elemental iron may be reduced when used in combination with omeprazole.
Monitoring	Monitor serum electrolytes including sodium, potassium, calcium and magnesium, particularly if digoxin or diuretics are prescribed concurrently. Vitamin B_{12} should be checked every 1-2 years if omeprazole is prescribed long term.
Stability	Discard any unused reconstituted intravenous solution immediately. Suspension expiry = 30 days from the date of opening or manufacturers expiry, whichever is shorter. Stability of omeprazole is a function of pH, it is rapidly degraded in acidic media but stable in alkaline conditions. The granule coating is stable in acid and breaks down in the alkaline environment of the small intestine.
Storage	Injection: store at room temperature, protect from light. Suspension: store in the fridge (2-8^{o}C) Capsules: store at room temperature
Adverse Reactions	Generally mild. Fever, rash, cough, constipation, diarrhoea, electrolyte disturbances (eg hypocalcaemia, hypokalaemia, hypomagnesaemia, and hyponatraemia), increased transaminases, hypergastrinemia, haemolytic anaemia, liver impairment, acute interstitial nephritis. An increased risk of bone fractures in children has been associated with long term use.

Metabolism	Onset of action is within 1hr of administration, maximal effect at 2hrs. Plasma half-life 1hr. High protein binding (95%). Almost completely metabolised to inactive metabolites which are excreted in the urine.
Comments	If taste of the suspension is an issue open the capsule and sprinkle the enteric coated granules given sprinkled on apple puree / yoghurt. If partial or no response to treatment is noted, consider increasing the dose and an endoscopy to assess for oesophagitis.
References	1. Medicines for Children, RCPCH, 1999 2. Neofax, 2019 3. Neonatal Medicines Formulary Consensus Group 2018 4. www.nzf.org.nz 5. www.noids.nz 6. www.micromedexsolutions.com (Trissells IV Compatibility Data)
Updated By	Dr D Gray, May 2000, P Schmidt, B Robertshawe December 2004 A Lynn, B Robertshawe March 2008, March 2010, Sept 2010 A Lynn, B Robertshawe Dec 2012 (re-order profile) N Austin, M Wallenstein, B Robertshawe Oct 2019 (update + add IV dose) A Lynn, M Wallenstein, B Robertshawe April 2021 (Change of brand) A Lynn, B Robertshawe March 2023 double dilution instructions