

# Omeprazole

<b>Trade Name</b>	Omeprazole Injection (Mylan) Omeprazole Oral Liquid (BIOMED) Omeprazole Actavis Capsules (Teva Pharma)								
<b>Class</b>	Gastric acid secretion inhibitor, proton pump inhibition.								
<b>Mechanism of Action</b>	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.								
<b>Indications</b>	Gastro-oesophageal reflux with oesophagitis refractory to other treatments								
<b>Contraindications</b>	Caution in patients with hepatic impairment								
<b>Supplied As</b>	<b>Injection:</b> Supplied as freeze dried powder 40mg to be reconstituted then diluted to a final solution containing <b>400 microgram / mL</b> see directions below <b>Suspension:</b> 2 mg / mL BIOMED <b>Capsules:</b> 10 mg, 20 mg, 40mg								
<b>Dilution</b>	<p><b>IV: Caution this is a two-step dilution process</b></p> <p><b>Step 1:</b> Add <b>5 mL</b> of sodium chloride 0.9% to the vial containing omeprazole 40mg freeze dried powder to give a solution of <b>8 mg/mL</b>.</p> <p><b>Step 2:</b> Now take <b>0.5mL</b> of this solution (= <b>4 mg</b>) and add 9.5 mL of 0.9% sodium chloride to give a <b>final concentration of 400 microgram / mL</b> (see below)</p> <table border="1"> <thead> <tr> <th>Drug</th> <th>Sodium Chloride 0.9% Added</th> <th>Final Volume</th> <th>Final Concentration</th> </tr> </thead> <tbody> <tr> <td>4 mg (0.5 mL)</td> <td>9.5 mL</td> <td>10 mL</td> <td><b>400 microg / mL</b></td> </tr> </tbody> </table> <p><b>Oral :</b> N/A</p>	Drug	Sodium Chloride 0.9% Added	Final Volume	Final Concentration	4 mg (0.5 mL)	9.5 mL	10 mL	<b>400 microg / mL</b>
Drug	Sodium Chloride 0.9% Added	Final Volume	Final Concentration						
4 mg (0.5 mL)	9.5 mL	10 mL	<b>400 microg / mL</b>						
<b>Dosage</b>	<b>IV:</b> 500 mcg/kg/dose (must be reviewed after 72 hours) <b>Oral:</b> 1 to 3 mg/kg/dose								
<b>Interval</b>	Once daily usually in the morning								
<b>Administration</b>	<b>IV:</b> 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.								
<b>Compatible With</b>	<b>Solutions:</b> Sodium chloride 0.9%, dextrose 5% Do not mix with other medications – very limited compatibility data available								
<b>Incompatible With</b>	Do not mix with other medications								

<b>Interactions</b>	<p>Omeprazole may increase serum concentrations of phenytoin, digoxin, diazepam, clarithromycin, fluconazole</p> <p>May cause hypomagnesaemia, use with caution in combination with digoxin and diuretics.</p> <p>Omeprazole reduces absorption of ketoconazole.</p> <p>Fluconazole may reduce omeprazole concentrations.</p> <p>Absorption of elemental iron may be reduced when used in combination with omeprazole.</p>
<b>Monitoring</b>	<p>Monitor serum electrolytes including sodium, potassium, calcium and magnesium, particularly if digoxin or diuretics are prescribed concurrently.</p> <p>Vitamin B<sub>12</sub> should be checked every 1-2 years if omeprazole is prescribed long term.</p>
<b>Stability</b>	<p>Discard any unused reconstituted intravenous solution immediately.</p> <p>Suspension expiry = 30 days from the date of opening or manufacturers expiry, whichever is shorter.</p> <p>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.</p>
<b>Storage</b>	<p>Injection: store at room temperature, protect from light.</p> <p>Suspension: store in the fridge (2-8°C )</p> <p>Capsules: store at room temperature</p>
<b>Adverse Reactions</b>	<p>Generally mild.</p> <p>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.</p>
<b>Metabolism</b>	<p>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.</p>
<b>Comments</b>	<p>If taste of the suspension is an issue open the capsule and sprinkle the enteric coated granules given sprinkled on apple puree / yoghurt.</p> <p>If partial or no response to treatment is noted, consider increasing the dose and an endoscopy to assess for oesophagitis.</p>

<b>References</b>	<ol style="list-style-type: none"><li>1. Medicines for Children, RCPCH, 1999</li><li>2. Neofax, 2019</li><li>3. Neonatal Medicines Formulary Consensus Group 2018</li><li>4. <a href="http://www.nzf.org.nz">www.nzf.org.nz</a></li><li>5. <a href="http://www.noids.nz">www.noids.nz</a></li><li>6. <a href="http://www.micromedexsolutions.com">www.micromedexsolutions.com</a> (Trissells IV Compatibility Data)</li></ol>
<b>Updated By</b>	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)