

# Amoxicillin (Amoxycillin)

## Newborn use only

2020

<b>Alert</b>	S4 – High risk medicine. Antimicrobial Stewardship Team recommends this drug is listed as unrestricted.																														
<b>Indication</b>	Directed treatment of infections caused by <ol style="list-style-type: none"> <li>susceptible gram positive (including <i>Streptococcus</i> species, <i>Enterococcus faecalis</i> and <i>Listeria monocytogenes</i>) and</li> <li>susceptible gram negative bacteria (some strains of <i>Escherichia coli</i>, non-beta-lactamase-producing <i>Haemophilus influenzae</i>, <i>Neisseria meningitidis</i>, non-penicillinase-producing strains of <i>Proteus</i> and <i>Salmonellae</i>).</li> </ol> Empiric treatment of suspected early onset sepsis including meningitis, with an aminoglycoside.																														
<b>Action</b>	Bactericidal – inhibits synthesis of the bacterial cell wall. Amoxicillin is hydrolysed by beta-lactamases and therefore not effective against penicillinase-producing bacteria.																														
<b>Drug Type</b>	Antibacterial – semi-synthetic, bactericidal aminopenicillin																														
<b>Trade Name</b>	Alphamox Suspension [Alphapharm], Amoxil Paediatric Drops [Aspen], Amoxil Parenteral [Aspen], Amoxil Syrup Forte Sugar Free [Aspen], Amoxil Syrup Sugar Free [Aspen], Amoxycillin Sandoz [Sandoz], APO-Amoxycillin [Apotex], Bgramin [Ascent Pharma], Chemmart Amoxycillin [Apotex], Cilamox Sugar Free Syrup [Aspen Pharma], Fisamox [Aspen], Ibiamox [Willow], Maxamox [Sandoz], Ranmoxy Granules [Ranbaxy], Terry White Chemists Amoxycillin [Apotex]																														
<b>Presentation</b>	IV: Amoxicillin sodium 500 mg and 1 g vials. Oral: Syrup 125 mg/5 mL and 250 mg/5 mL; Paediatric drops 100 mg/mL.																														
<b>Dosage / Interval</b>	<p><b>IV</b></p> <p>Standard infections: 50 mg/kg/dose. Meningitis: 100 mg/kg/dose.</p> <table border="1"> <thead> <tr> <th>Corrected Gestational Age/Postmenstrual Age</th> <th>Postnatal Age</th> <th>Interval</th> </tr> </thead> <tbody> <tr> <td>&lt; 30+0 weeks</td> <td>0–28 days</td> <td>12 hourly</td> </tr> <tr> <td>&lt; 30+0 weeks</td> <td>29+ days</td> <td>8 hourly</td> </tr> <tr> <td>30<sup>+0</sup>–36<sup>+6</sup> weeks</td> <td>0–14 days</td> <td>12 hourly</td> </tr> <tr> <td>30<sup>+0</sup>–36<sup>+6</sup> weeks</td> <td>15+ days</td> <td>8 hourly</td> </tr> <tr> <td>37<sup>+0</sup>–44<sup>+6</sup> weeks</td> <td>0–7 days</td> <td>12 hourly</td> </tr> <tr> <td>37<sup>+0</sup>–44<sup>+6</sup> weeks</td> <td>8+ days</td> <td>8 hourly</td> </tr> </tbody> </table> <p><b>ORAL</b></p> <p>Treatment: 25–50 mg/kg/dose.</p> <table border="1"> <thead> <tr> <th>Corrected Gestational Age/Postmenstrual Age</th> <th>Postnatal Age</th> <th>Interval</th> </tr> </thead> <tbody> <tr> <td>37<sup>+0</sup>–44<sup>+6</sup> weeks</td> <td>0–7 days</td> <td>12 hourly</td> </tr> <tr> <td>37<sup>+0</sup>–44<sup>+6</sup> weeks</td> <td>8+ days</td> <td>8 hourly</td> </tr> </tbody> </table> <p>Prophylaxis (e.g. Urinary Tract Infection): 10–15 mg/kg/dose once a day</p>	Corrected Gestational Age/Postmenstrual Age	Postnatal Age	Interval	< 30+0 weeks	0–28 days	12 hourly	< 30+0 weeks	29+ days	8 hourly	30 <sup>+0</sup> –36 <sup>+6</sup> weeks	0–14 days	12 hourly	30 <sup>+0</sup> –36 <sup>+6</sup> weeks	15+ days	8 hourly	37 <sup>+0</sup> –44 <sup>+6</sup> weeks	0–7 days	12 hourly	37 <sup>+0</sup> –44 <sup>+6</sup> weeks	8+ days	8 hourly	Corrected Gestational Age/Postmenstrual Age	Postnatal Age	Interval	37 <sup>+0</sup> –44 <sup>+6</sup> weeks	0–7 days	12 hourly	37 <sup>+0</sup> –44 <sup>+6</sup> weeks	8+ days	8 hourly
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<b>Maximum Daily Dose</b>	300 mg/kg/day																														
<b>Route</b>	IV IM (only if IV route not possible as intramuscular route is painful) ORAL																														
<b>Preparation/Dilution</b>	<p><b>IV</b></p> <p>Add 4.6 mL of water for injection to the 500 mg vial to make 100 mg/mL solution OR Add 9.3 mL of water for injection to the 1 g vial to make 100 mg/mL solution.</p> <p><b>FURTHER DILUTE</b></p> <p>Draw up 5 mL (500 mg of amoxicillin) of the above solution and add 5 mL sodium chloride 0.9% to make a final volume of 10mL with a final concentration of 50 mg/mL.</p> <p><b>IM</b></p> <p>Add 2.3 mL of water for injection to the 500 mg vial to make 200 mg/mL solution.</p> <p><b>ORAL</b></p> <ol style="list-style-type: none"> <li>Syrup 125 mg/5 mL: Add 87 mL of water for irrigation to make a final volume of 100mL with a final concentration of 125mg/5mL of suspension.</li> <li>Syrup 250mg/5mL: Add 87 mL of water for irrigation to make a final volume of 100mL with a final concentration of 250mg/5mL of suspension.</li> </ol>																														

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	3. Paediatric drops 100 mg/mL: Add 18 mL water for injection to make a final volume of 21mL with a final concentration of 100mg/mL.
<b>Administration</b>	IV: <b>Infuse over 30 minutes into the proximal cannula site.</b> Separate from aminoglycosides by clearing the lines with a flush as penicillins inactivate them. IM injection: Only if IV route is not possible. PO: The liquid preparation should be shaken well After mixing, administer immediately. . The dose may be mixed with milk.
<b>Monitoring</b>	Monitoring is not required. Follow infectious disease/microbiology advice in case of poor therapeutic response.
<b>Contraindications</b>	Hypersensitivity to penicillins (unlikely to be an issue in neonates).
<b>Precautions</b>	Hypersensitivity to cephalosporins (unlikely to be an issue in neonates). In renal impairment, the excretion of amoxicillin will be delayed. In infants with severe renal impairment, it may be necessary to reduce the total daily dose.
<b>Drug Interactions</b>	IV: Aminoglycosides, including gentamicin, should not be mixed with amoxicillin when both drugs are given parenterally as inactivation of the aminoglycoside occurs. Ensure line is adequately flushed between antibiotics. PO: No significant drug-drug interaction found for neonates on oral amoxicillin.
<b>Adverse Reactions</b>	Common: Diarrhoea, skin rash (erythematous maculopapular), phlebitis at the injection site, superinfection with resistant organisms during prolonged therapy Uncommon/rare: Neurotoxicity, electrolyte disturbances e.g. hypernatraemia due to the sodium content (3.3 mmol per gram in Amoxil IV and 2.6 mmol per gram in Fisamox IV), erythema multiforme, exfoliative skin lesions, <i>C. difficile</i> diarrhoea, pancytopenia, raised liver enzymes. Amoxicillin may result in a false positive for glucose in the urine due to excessive amounts of urinary amoxicillin.
<b>Compatibility</b>	Fluids: Sodium chloride 0.9%, sterile water for injection  Y site: No information <sup>9</sup>
<b>Incompatibility</b>	Fluids: Glucose and glucose-containing solutions, fat emulsions Y site: Aminoglycosides, ciprofloxacin, imipenem-cilastatin, midazolam, potassium chloride, sodium bicarbonate <sup>9</sup>
<b>Stability</b>	IV: The reconstituted solution should be administered immediately; discard unused portion PO: The medication mixed with milk should be administered immediately.
<b>Storage</b>	IV: Store below 25°C. Protect from light. PO: Store unconstituted powder for oral suspension at 20–25 °C. Reconstituted suspension is stable for 14 days at room temperature or if refrigerated. Refrigeration is preferred.
<b>Special Comments</b>	Clearance is primarily by the renal route. Clearance increases with increasing gestational age and postmenstrual age. Serum half-life is longer in premature infants and infants younger than 7 days.
<b>Evidence</b>	Refer to full version.
<b>References</b>	Refer to full version.

<b>Original version 1.0</b>	6/10/2016
<b>Version: 1.2</b>	31/10/2019
<b>Version 1.3</b>	16/11/2020
<b>Review</b>	16/11/2025

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