

# AMOXICILLIN

Read in conjunction with [Disclaimer](#)

| <b><u>Formulary: Unrestricted</u></b> |  |
|---------------------------------------|--|
| <b>Presentation</b>                   | <b>Vial (powder for reconstitution): 1g</b><br><b>Oral Suspension: 100 mg/mL (KEMH)</b><br><b>250 mg/5 mL (PCH)</b>  |
| <b>Drug Class</b>                     | Moderate spectrum penicillin antibiotic.   |
| <b>Indication</b>                     | <ul style="list-style-type: none"> <li>Directed treatment of infections caused by susceptible gram positive (including Streptococcus species, Enterococcus faecalis and Listeria monocytogenes) and susceptible gram negative bacteria.</li> </ul>   |
| <b>Special Considerations</b>         | <ul style="list-style-type: none"> <li>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. Contact Microbiology.</li> <li>Contraindication in patients with hypersensitivity to penicillin (unlikely to be an issue in neonates).</li> <li>Use caution in patients with hypersensitivity to cephalosporins (unlikely to be an issue in neonates).</li> <li>Rapid administration of large IV doses may result in CNS excitation or seizure activity.</li> </ul> |
| <b>Monitoring</b>                     | Monitoring is not usually required. Follow Infectious Disease/Microbiology advice in case of poor therapeutic response.  |
| <b>Compatibility</b>                  | <b>Fluids:</b> Sodium Chloride 0.9%, Glucose 5%, Water for Injection<br>Refer to KEMH Neonatal Medication Guideline: <a href="#">Y-Site IV Compatibility in Neonates</a> .   |
| <b>Incompatibility</b>                | TPN solutions, Fat emulsion, blood products.<br>Ciprofloxacin, midazolam, potassium chloride, sodium bicarbonate.  |
| <b>Interactions</b>                   | IV aminoglycoside antibiotics, including gentamicin, are inactivated by IV cephalosporins, penicillins and teicoplanin. Ensure lines are adequately flushed between antibiotics.<br>Oral amoxicillin: no significant drug-drug interaction found for neonates.   |
| <b>Side Effects</b>                   | <b>Common:</b> Vomiting, diarrhoea, skin rash, hypersensitivity, angioedema, phlebitis at injection site, superinfection with resistant organisms during prolonged therapy.<br><b>Uncommon/Rare/Serious:</b> neurotoxicity (too rapid injection rate), urticaria, purpurae, anaemia, thrombocytopenia, black tongue, electrolyte disturbances e.g. hypernatraemia or hypokalaemia due to sodium content of parenteral doses, <i>C. Difficile</i> -associated disease, crytalluria (high IV doses).   |

|                                |  |
|--------------------------------|--|
| <b>Storage &amp; Stability</b> | <p><b>Oral Suspension</b><br/> <b>100mg/mL Solution:</b> Store at room temperature, below 25°C.</p> <ul style="list-style-type: none"> <li>• Reconstituted solution is stable for 14 days at room temperature or if refrigerated (refrigeration is preferred).</li> </ul> <p><b>250mg/mL Solution:</b> Refrigerate, do not freeze.</p> <ul style="list-style-type: none"> <li>• Reconstituted solution is stable for 14 days refrigerated.</li> </ul>  |
|                                | <p><b>Vial:</b> Store at room temperature, below 25°C. Protect from light.</p> <ul style="list-style-type: none"> <li>• Reconstituted solution should be administered immediately; discard unused portion.</li> </ul>  |
| <b>Comments</b>                | <ul style="list-style-type: none"> <li>• 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.</li> <li>• Ibiamox<sup>®</sup> and Amoxil<sup>®</sup> IV contain 3.3 mmol of sodium per gram. Fisamox<sup>®</sup> IV contains 2.6 mmol of sodium per gram.</li> <li>• Only use IM route if IV route not available. IM injection can be painful.</li> <li>• If co-prescribed with aminoglycoside, give the antibiotic with shortest duration of administration first (so antibiotic cover commences as soon as possible). <ul style="list-style-type: none"> <li>○ Do not mix in the same injection or infusion solution; flush before and after.</li> </ul> </li> </ul> |



**Presentation  
(for oral use)**

**Oral Suspension:**  
**KEMH:** 100 mg/mL  
**PCH:** 250 mg/5 mL

**Dosage**

**Infections due to susceptible organisms:**

| Gestational Age | Current Age                | Dose     | Frequency      |
|-----------------|----------------------------|----------|----------------|
| All ages        | Less than 7 days           | 50 mg/kg | Every 12 hours |
|                 | Greater or equal to 7 days | 50 mg/kg | Every 8 hours  |

**Dose adjustment:**

- **Renal impairment:** in infants with severe impairment, it may be necessary to reduce the total daily dose. Contact microbiology.
- **Hepatic impairment:** No adjustment required.

**Meningitis:**

| Gestational Age | Current Age                | Dose      | Frequency      |
|-----------------|----------------------------|-----------|----------------|
| All ages        | Less than 7 days           | 100 mg/kg | Every 12 hours |
|                 | Greater or equal to 7 days | 100 mg/kg | Every 8 hours  |

**Dose adjustment:**

- **Renal impairment:** in infants with severe impairment, it may be necessary to reduce the total daily dose. Contact microbiology.
- **Hepatic impairment:** No adjustment required.

**Preparation**

**Reconstitution:**

Reconstitute the amoxicillin as per the product information with water as follows:

- Tap bottle until all the powder flows freely
- Add the total volume of water for reconstitution
- Shake vigorously to suspend the powder

**Administration**

- Shake well before each use
- Draw prescribed dose into oral/enteral syringe
- Can be given Oral/OGT/NGT
- May be given anytime in relation to feeds
- May be mixed with formula or milk; administer dose immediately after mixing.



**Presentation (for IV use)**    **Vial:** 1 g (powder for reconstitution)  
**Not available from CIVAS**

**Infections due to susceptible organisms:**

| Gestational Age | Current Age | Dose     | Frequency      |
|-----------------|-------------|----------|----------------|
| All ages        | < 7 days    | 50 mg/kg | Every 12 hours |
|                 | ≥ 7 days    | 50 mg/kg | Every 8 hours  |

**Dose adjustment:**

- **Renal impairment:** in infants with severe impairment, it may be necessary to reduce the total daily dose. Contact microbiology.
- **Hepatic impairment:** No adjustment required.

**Dosage**

**Meningitis:**

| Gestational Age | Current Age | Dose      | Frequency      |
|-----------------|-------------|-----------|----------------|
| All ages        | < 7 days    | 100 mg/kg | Every 12 hours |
|                 | ≥ 7 days    | 100 mg/kg | Every 8 hours  |

**Dose adjustment:**

- **Renal impairment:** in infants with severe impairment, it may be necessary to reduce the total daily dose. Contact microbiology.
- **Hepatic impairment:** No adjustment required.

**Preparation**

**Vial (powder for reconstitution):** 1g

**Step 1 Reconstitution:**

- Add 9.2 mL of water for injection to the amoxicillin vial.
- Concentration is now 1000 mg/10 mL

**Step 2 Dilution:**

- Draw up 500 mg (5 mL) and make up to 10 mL total volume with water for injection.
- Concentration is now **500 mg/10 mL = 50 mg/mL**

**Administration**

**IV infusion:**

- Infuse via syringe driver pump over at least 30 minutes.
- Rapid administration of large IV doses may result in CNS excitation or seizure activity.



| <p><b>Presentation</b><br/>(for IM use)</p> | <p><b>Vial (powder for reconstitution): 1 g</b><br/><i>Not available from CIVAS</i></p>   |                 |                |      |           |          |          |          |                |          |          |               |                 |             |      |           |          |          |           |                |          |           |               |
|---|---|-----------------|----------------|------|-----------|----------|----------|----------|----------------|----------|----------|---------------|-----------------|-------------|------|-----------|----------|----------|-----------|----------------|----------|-----------|---------------|
| <p><b>Dosage</b></p>                        | <p><b>Infections due to susceptible organisms:</b></p> <table border="1" data-bbox="491 322 1310 544"> <thead> <tr> <th>Gestational Age</th> <th>Current Age</th> <th>Dose</th> <th>Frequency</th> </tr> </thead> <tbody> <tr> <td rowspan="2">All ages</td> <td>&lt; 7 days</td> <td>50 mg/kg</td> <td>Every 12 hours</td> </tr> <tr> <td>≥ 7 days</td> <td>50 mg/kg</td> <td>Every 8 hours</td> </tr> </tbody> </table> <p><b>Dose adjustment:</b></p> <ul style="list-style-type: none"> <li>○ <b>Renal impairment:</b> in infants with severe impairment, it may be necessary to reduce the total daily dose. Contact microbiology.</li> <li>○ <b>Hepatic impairment:</b> No adjustment required.</li> </ul> <hr/> <p><b>Meningitis:</b></p> <table border="1" data-bbox="491 822 1310 1043"> <thead> <tr> <th>Gestational Age</th> <th>Current Age</th> <th>Dose</th> <th>Frequency</th> </tr> </thead> <tbody> <tr> <td rowspan="2">All ages</td> <td>&lt; 7 days</td> <td>100 mg/kg</td> <td>Every 12 hours</td> </tr> <tr> <td>≥ 7 days</td> <td>100 mg/kg</td> <td>Every 8 hours</td> </tr> </tbody> </table> <p><b>Dose adjustment:</b></p> <ul style="list-style-type: none"> <li>○ <b>Renal impairment:</b> in infants with severe impairment, it may be necessary to reduce the total daily dose. Contact microbiology.</li> <li>○ <b>Hepatic impairment:</b> No adjustment required.</li> </ul> | Gestational Age | Current Age    | Dose | Frequency | All ages | < 7 days | 50 mg/kg | Every 12 hours | ≥ 7 days | 50 mg/kg | Every 8 hours | Gestational Age | Current Age | Dose | Frequency | All ages | < 7 days | 100 mg/kg | Every 12 hours | ≥ 7 days | 100 mg/kg | Every 8 hours |
| Gestational Age                             | Current Age   | Dose            | Frequency      |      |           |          |          |          |                |          |          |               |                 |             |      |           |          |          |           |                |          |           |               |
| All ages                                    | < 7 days  | 50 mg/kg        | Every 12 hours |      |           |          |          |          |                |          |          |               |                 |             |      |           |          |          |           |                |          |           |               |
|   | ≥ 7 days  | 50 mg/kg        | Every 8 hours  |      |           |          |          |          |                |          |          |               |                 |             |      |           |          |          |           |                |          |           |               |
| Gestational Age                             | Current Age   | Dose            | Frequency      |      |           |          |          |          |                |          |          |               |                 |             |      |           |          |          |           |                |          |           |               |
| All ages                                    | < 7 days  | 100 mg/kg       | Every 12 hours |      |           |          |          |          |                |          |          |               |                 |             |      |           |          |          |           |                |          |           |               |
|   | ≥ 7 days  | 100 mg/kg       | Every 8 hours  |      |           |          |          |          |                |          |          |               |                 |             |      |           |          |          |           |                |          |           |               |
| <p><b>Preparation</b></p>                   | <p><b>Vial (powder for reconstitution): 1 g</b><br/><b>Step 1 Reconstitution:</b></p> <ul style="list-style-type: none"> <li>• Add 3.2 mL of Water for Injection or lidocaine 1% to the amoxicillin vial.</li> <li>• Shake vigorously.</li> <li>• Concentration is now <b>1000 mg/4 mL = 250 mg/mL</b></li> </ul>   |                 |                |      |           |          |          |          |                |          |          |               |                 |             |      |           |          |          |           |                |          |           |               |
| <p><b>Administration</b></p>                | <ul style="list-style-type: none"> <li>• Draw up the prescribed dose.</li> <li>• Intramuscular injection as per the <a href="#">Medication Administration Guideline</a>.</li> <li>• Only use IM route if IV route not available. IM injection can be painful.</li> </ul>  |                 |                |      |           |          |          |          |                |          |          |               |                 |             |      |           |          |          |           |                |          |           |               |

## Related Policies, Procedures, and Guidelines

### Clinical Practice Guidelines:

[Neonatology - Sepsis](#)

[Neonatology - Seizures](#)

### WNHS Pharmaceutical and Medicines Management Guidelines:

[Antimicrobial Stewardship](#)

[WNHS Cold Chain Management for Medications and Vaccines](#)

[CAHS Medication Refrigerators and Freezers](#)

[WNHS Medication Administration Guideline](#)

[CAHS Medication Administration Guideline](#)

## References

Takemoto CK, Hodding JH, Kraus DM. Pediatric & neonatal dosage handbook with international trade names index: a universal resource for clinicians treating pediatric and neonatal patients. 27th ed. Hudson (Ohio): Lexicomp; 2020, P.132

Australian Medicines Handbook. Amoxicillin. In: Australian Medicines Handbook [Internet]. Adelaide (South Australia): Australian Medicines Handbook; 2023 [cited 2023 Dec 28]. Available from: <https://amhonline.amh.net.au/>

Truven Health Analytics. Title Amoxicillin. In: NeoFax [Internet]. Greenwood Village (CO): Truven Health Analytics; 2023 [cited 2023 Dec 28]. Available from: <https://neofax.micromedexsolutions.com/>

Society of Hospital Pharmacists of Australia. Amoxicillin. In: Australian Injectable Drugs Handbook [Internet]. [St Leonards, New South Wales]: Health Communication Network; 2023 [cited 2023 Dec 28]. Available from: <http://aidh.hcn.com.au>

MIMS Australia. Ibiamox. In: MIMS Online [Internet]. St Leonards (New South Wales): MIMS Australia; 2023 [cited 2023 Dec 2023]. Available from: <https://www.mimsonline.com.au>

Australasian Neonatal Medicines Formulary (ANMF). Amoxicillin. In: Australasian Neonatal Medicines Formulary [Internet]. Sydney, New South Wales; 2021 [cited 2023 Dec 28]. Available from: [www.anmfonline.org](http://www.anmfonline.org)

South Australian Neonatal Medication Guidelines. Amoxicillin. South Australian Neonatal Medication Guidelines [Internet]. 2021 [updated 2021 Jul 26; cited 2023 Dec 28]. Available from: <https://www.sahealth.sa.gov.au>

Queensland Clinical Guidelines. Neonatal Medicine (NeoMedQ). Amoxicillin. In NeoMedQ [Internet]. Queensland; 2021 [cited 2023 Dec 28]. Available from: <https://www.health.qld.gov.au/qcg/neonatal-medicines>

## Document history

|   |   |                |   |              |            |
|---|---|----------------|---|--------------|------------|
| Keywords  | Amoxicillin, amoxycillin, Amoxil, Ibiamox, Fisamox, meningitis, infection   |                |   |              |            |
| Document Owner:   | Chief Pharmacist  |                |   |              |            |
| Author/ Reviewer  | KEMH & PCH Pharmacy/Neonatology Directorate   |                |   |              |            |
| Version Info:   | 4.0 – full review (December 2023)   |                |   |              |            |
| Date First Issued:  | March 2013  | Last Reviewed: | 28/12/2023  | Review Date: | 28/12/2028 |
| Endorsed by:  | Neonatal Directorate Management Group   |                |   | Date:        | 26/03/2024 |
| NSQHS Standards Applicable:   | <input checked="" type="checkbox"/>  Std 1: Clinical Governance  |                | <input checked="" type="checkbox"/>  Std 4: Medication Safety |              |            |
|   | <input checked="" type="checkbox"/>  Std 3: Preventing and Controlling Healthcare Associated Infection |                |   |              |            |
| <p><b>Printed or personally saved electronic copies of this document are considered uncontrolled.</b></p> <p><b>Access the current version from WNHS HealthPoint.</b></p> |   |                |   |              |            |

**This document can be made available in alternative formats on request for a person with a disability.**

© North Metropolitan Health Service 2023