### Flucloxacillin
Newborn use only

#### Alert
The Antimicrobial Stewardship Team has listed this drug under the following category:
Unrestricted.

#### Indication
Treatment of sepsis where infection by *Staphylococcus aureus* or susceptible coagulase-negative Staphylococci (CoNS) is suspected or confirmed, and other infections caused by susceptible organisms.

#### Action
Bactericidal agent that works by inhibiting the biosynthesis of cell wall mucopeptides. Flucloxacillin is stable against beta-lactamase producing staphylococci.

#### Drug Type
Penicillin antibiotic.

#### Trade Name
Flucil, Flucloxacillin sodium monohydrate for injection (DBL), Flubiclox

#### Presentation
500 mg vial, 1000 mg vial, 125 mg/5 mL suspension, 250 mg/5 mL suspension.

#### Dosage/Interval

<table>
<thead>
<tr>
<th>Route</th>
<th>IV, IM or IO:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>Recommended: 25 mg/kg/dose every 4 hours</strong></td>
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<tr>
<td></td>
<td><strong>Alternate dosing regimen:</strong></td>
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<tr>
<td></td>
<td>50 mg/kg/dose. Dosing interval as below:</td>
</tr>
<tr>
<td>Day of life</td>
<td>Dosing interval</td>
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<tr>
<td>Days 0–7</td>
<td>12 hourly</td>
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<tr>
<td>Days 8–20</td>
<td>8 hourly</td>
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<tr>
<td>Day 21+</td>
<td>6 hourly</td>
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<tr>
<td>Oral: 25 mg/kg/dose. Dosing interval as below:</td>
<td></td>
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<tr>
<td>Day of life</td>
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</table>

#### Route
- IV
- IM (only if IV route not possible as intramuscular route is painful)
- IO
- Oral

#### Maximum Daily Dose
200 mg/kg/day

#### Preparation/Dilution

**IV/IO:**
- Add 4.6 mL of WFI to 500 mg powder for reconstitution (100 mg/mL) OR
- Add 9.3 mL of WFI to the 1000 mg powder for reconstitution (100 mg/mL).
- Draw up 2.5 mL of reconstituted solution (250 mg) and add 2.5 mL sodium chloride 0.9% to make a final volume of 5 mL with a concentration of 50 mg/mL.

**IM:**
- Add 1.6 mL of WFI, or lidocaine (lignocaine) 1% to 500mg powder for reconstitution (250 mg/mL) OR
- Add 3.3 mL of WFI, or lidocaine (lignocaine) 1% to the 1000 mg powder for reconstitution (250 mg/mL).

**NOTE:** DO NOT ADMINISTER LIDOCAINE (LIGNOCAINE) CONTAINING SOLUTIONS INTRAVENOUSLY.

#### Administration
- IV: Infuse over 30 to 60 minutes. May be given as a IV injection over 3–5 minutes however pain and phlebitis are common and can be severe. IM: Inject slowly into a large muscle (if administering a volume greater than 1mL, divide the dose and administer at 2 different injection sites to minimise pain).
- Oral: Give 30 to 60 minutes before feeds. Shake the bottle well before measuring dose. Usually reconstituted by Pharmacy. If supplied unreconstituted, reconstitute powder for oral suspension using water for injection with the volume specified on the bottle.

#### Monitoring
- Monitor liver function tests if using high dose/long course or in existing hepatic impairment.
- Monitor renal function as the drug is mainly renally excreted.

*This is a printed copy. Refer to HNE PPG Intranet site for the most up to date version.*
| Contraindications | History of flucloxacillin associated jaundice or hepatic dysfunction.  
History of a hypersensitivity reaction to beta-lactam antibiotics e.g., penicillins. |
|-------------------|----------------------------------------------------------------------------------------------------------------------------------|
| Precautions       | Use with caution in renal or hepatic impairment.  
Use with caution in jaundiced or preterm infants as flucloxacillin can displace bilirubin from albumin.  
IM injection can cause pain and irritation – obtaining IV access as soon as possible is recommended. |
| Drug Interactions | Aminoglycosides, including gentamicin, should not be mixed with flucloxacillin when both drugs are given parenterally as inactivation occurs. Ensure line is adequately flushed between antibiotics. |
| Adverse Reactions | Transient diarrhoea – common with oral doses.  
Hypersensitivity (rare) – urticaria, fever, bronchospasm, anaphylaxis, eosinophilia.  
Phlebitis (much rarer than with dicloxacillin) – monitor injection site.  
Hepatitis and cholestatic jaundice (may occur up to several weeks after stopping), isolated cases of nephritis. |
| Compatibility     | Fluids: Glucose 5%, sodium chloride 0.9%, lidocaine (lignocaine) 0.5% or 1%  
Y-site: Adrenaline (epinephrine), aminophylline, ampicillin, dexamethasone sodium phosphate, digoxin, heparin, hydrocortisone sodium succinate, potassium chloride, ranitidine, sodium bicarbonate. |
| Incompatibility   | Fluids: Amino acid solutions and lipid emulsions.  
Y-site: Aminoglycosides (e.g., gentamicin), atropine sulfate monohydrate, benzylpenicillin, calcium gluconate monohydrate, ciprofloxacin, dobutamine, erythromycin lactobionate, midazolam, morphine sulfate pentahydrate, vancomycin. |
| Stability         | Use immediately following reconstitution.  
Vial is for single use only.  
Reconstituted oral suspension should be discarded after 14 days. |
| Storage           | Vial: Store below 25°C.  
Oral suspension: Store powder below 25°C, once reconstituted store solution at 2–8°C. |
| Special Comments  | Powder displacement values of 500 mg and 1 g vials are 0.4 mL and 0.7 mL respectively.  
IM administration will result in delayed peak serum concentrations compared with administration via Intravenous or intraosseous route. |
<p>| Evidence summary  | Refer to full version. |
| References        | Refer to full version. |</p>
<table>
<thead>
<tr>
<th>Final editing and review of the original</th>
<th>Ian Whyte</th>
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</thead>
<tbody>
<tr>
<td>Electronic version</td>
<td>Mariella De Rosa, Cindy Chen, Ian Callander</td>
</tr>
<tr>
<td>Facilitator</td>
<td>Srinivas Bolisetty</td>
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