## FLUCLOXACILLIN

Narrow spectrum 2nd generation penicillin. Time-dependent killing.
- **Active against:** Gram-positive organisms (including beta-lactamase producing *Staphylococcus aureus*, penicillin-sensitive *S. aureus*, some *S. epidermidis*, *S. lugdenensis*, *Streptococcus pyogenes*, *S. pneumoniae*).
- **Inactive against:** MRSA, *Enterococcus* spp, *Bacillus* spp and Gram-negative organisms (including Enterobacteriaceae).

### WHEN TO CONSIDER TDM

TDM is useful in sepsis and should be undertaken for **critically ill patients** and is strongly recommended for patients with **bacteraemia, endocarditis, deep-seated infection**. TDM should also be considered for **pathogens with a high MIC**.

### PHARMACOKINETICS

*(may be altered in critical illness and organ dysfunction)*

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Absorption</td>
<td>Oral: 50-70%</td>
</tr>
<tr>
<td>Protein binding</td>
<td>High: 92-95%</td>
</tr>
<tr>
<td>Clearance</td>
<td>As metabolites: unquantified-very low</td>
</tr>
<tr>
<td></td>
<td>Unchanged in urine: Major route of elimination</td>
</tr>
<tr>
<td>Elimination t½</td>
<td>45 mins – 1.5 hour</td>
</tr>
</tbody>
</table>

### SAMPLE COLLECTION TIME

- **Intermittent dosing:** collect **trough**, **24 hours** after initiation or following dose change.
- **Continuous infusions:** collect a steady state sample - after **12 hours of infusion**.

### REQUESTING & COLLECTION

Collect 4 mL in a purple top (EDTA) tube (no gel separator).

**Important information required on request form:**
1. Time of blood sample collection
2. Time and date of last dose
3. Time since last dose change/commencement
4. Dosing regimen

### HANDLING & TRANSPORT

Sample must be delivered to laboratory within 1 hour of collection.
If not delivered to the lab within 2 hours of collection, centrifuge, separate plasma and freeze within 3 hours of collection.

### AVAILABILITY

Test performed Mondays to Fridays. Results available after 4 pm.

### REFERENCE INTERVALS

**Suggested Therapeutic Targets:**
- **Empiric therapy:** Trough 20-80 mg/L
- **Directed therapy:** Trough 4x MIC

**Toxic Range:** *Not well defined. Data suggests a significant risk of neurotoxicity with trough >125 mg/L*

**Note:** SydPath currently measures total drug concentration (free + protein bound) so changes in serum protein concentration will affect interpretation.

### CONTACT

Clinical Pharmacology Laboratory: (02) 8382 9184
Patient Results: (02) 8382 9100

**INSTRUCTIONS FOR REFERRING LABORATORIES**

Centrifuge, separate plasma within 3 hours of collection, store and transport plasma frozen.

**Document approved** XXX R. Day

**Reference(s):**