**MANAGEMENT OF STAPHYLOCOCCUS AUREUS BACTERAEMIA**

**Suspected/Proven Staphylococcus aureus Bacteraemia**

<table>
<thead>
<tr>
<th>Flucloxacillin 2g (child: 50mg/kg up to 2g) IV 6-hourly (4-hourly in severe sepsis / septic shock / suspected endocarditis)</th>
</tr>
</thead>
</table>

**PLUS**

**Vancomycin** loading dose 25mg/kg actual body weight followed by maintenance dose 15-20mg/kg 12-hourly

*(For neonate seek expert advice, child <12 yrs: 15mg/kg up to 500mg IV 6-hourly)*

**Target trough serum vancomycin level: 15-20mg/L**

**Delayed Penicillin Hypersensitivity:** replace flucloxacillin with cephalosporin 2g 8-hourly (child: 50mg/kg up to 2g) (6-hourly in severe sepsis / septic shock / suspected endocarditis)

**Immediate Penicillin Hypersensitivity:** use vancomycin only

**Confirmed Staphylococcus aureus Bacteraemia**

- An infectious diseases consult is strongly recommended. In the absence of onsite infectious diseases consultation, please contact one of the tertiary centers.
- Drain pus where present.
- Remove any potentially infected devices, e.g. venous catheter.
- Assess for metastatic infective foci, e.g. Arthritis, discitis, ...
- Request echocardiogram in all patients. For patients at increased risk of endocarditis where echocardiography services are not available transfer of the patient is recommended.

**Methicillin Susceptible (MSSA)**

- Cease vancomycin.
- Continue flucloxacillin.

**Methicillin Resistant (MRSA)**

- Cease flucloxacillin.
- Continue vancomycin aiming for trough levels of 15-20mg/L (children: 10-20mg/L).

**Repeat Blood Culture 48-72 Hours After Commencing Antibiotics**

**Uncomplicated S. aureus Bacteraemia** if meets all of criteria below can be treated for 14 days:

- Negative blood culture at 48-72h.
- Rapid resolution of fever.
- Normal valves on Echocardiogram.
- An identifiable source has been removed.
- No evidence of metastatic seeding.
- No intravascular prosthetic device.
- Not immunocompromised.

**Complicated S. aureus Bacteraemia**

- Treat for a minimum of 4-6 weeks.

**Comments**

1. Increased risk of endocarditis:
   a. Cardiac murmur
   b. Embolic lesions
   c. Persistent fever despite antibiotics
   d. Blood cultures positive 48-72h after starting antibiotics

2. In children < 12 years, 30mg/kg up to 1g IV 12-hourly of vancomycin in an accepted alternative dosing

3. Renal impairment: dose adjustment may be required – please refer to eTG for details.

4. Troughs up to 25mg/L are accepted especially in MRSA bacteremia with MIC>1.5

5. In children, perform echocardiography only if there are known cardiac/valvular abnormalities, prolonged fever or persistently positive blood cultures.

6. In penicillin susceptible cases, switch to benzylpenicillin 1.8 – 2.4g IV 4 hrly (higher dose recommended in severe sepsis / septic shock / suspected endocarditis).

7. Uncomplicated S. aureus bacteremia in children requires 7-14 days of IV therapy. For all other cases seek expert opinion.

**It is recommended for all cases to seek specialist infectious diseases advice to improve outcome via one of the following hospital switchboards (7 day/24 hr service):**

- **Royal Perth Hospital:** Phone 9224 2244
- **Fremantle Hospital:** Phone 9431 3333
- **Fiona Stanley Hospital:** Phone 6152 2222 (effective Feb 2015)
- **Sir Charles Gairdner Hospital:** Phone 9346 3333
- **Joondalup Health Campus:** Phone 9400 9400
- **Princess Margaret Hospital for Children:** Phone 9340 8222