**Clinical management**

### Clinical assessment
- Assess for severity and sepsis if national early warning score (NEWS) is 5 or more seek immediate assessment by senior clinician
- Consider source: skin or soft tissue, surgical site, vascular device, indwelling device or prosthesis, bone or joint, spine, endocarditis, pacemaker or endovascular infection or injection drug use related infected DVT most common
- Collect relevant microbiology samples, eg 2 additional blood cultures (BCs) sets if endocarditis suspected, urine, pus, sputum, prosthetic material as indicated
- Document SAB source and clinical management plan in patient records

### Source control
- All potentially infected devices should be removed
- Involve surgical specialist to drain collections or abscesses, wash out or debride joint, remove or debride prosthesis or cardiovascular implantable device as soon as possible

### Perform transthoracic echocardiogram (TTE) in all patients with SAB
- Refer to cardiology if TTE suggestive of endocarditis
- Refer for transoesophageal echocardiogram (TOE) if TTE negative or equivocal and ongoing suspicion of endocarditis, eg 2 or more positive BC, prosthetic valve or pacemaker

### Repeat blood cultures
- Repeat blood cultures 48 hours after starting IV antibiotics and at 48 hour intervals until negative cultures.
- Urgently reassess if persistently positive or ongoing fever

### Discuss all patients with SAB with infection specialist

**Antibiotic therapy and monitoring**

<table>
<thead>
<tr>
<th>IV antibiotics for minimum of 14 days from bacteraemia clearance</th>
</tr>
</thead>
<tbody>
<tr>
<td>- IV flucloxacillin is more effective than vancomycin in methicillin-sensitive Staphylococcus aureus (MSSA)</td>
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<tr>
<td>- Methicillin-resistant staphylococcus aureus (MRSA) accounts for less than 4% of SAB infections in Scotland</td>
</tr>
<tr>
<td>- If previous documented MRSA colonisation or infection, commence IV vancomycin and consider adding IV flucloxacillin pending sensitivity results</td>
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<tr>
<td>- Carefully assess any reported penicillin allergy to optimise therapy</td>
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</tbody>
</table>

### Flucloxacillin sensitive (MSSA)

#### IV flucloxacillin dosing
- 2g 6 hourly - consider dose reduction only if creatinine clearance less than 10 mls/min
- Endocarditis – discuss with infection specialist (see SAB quality of care indicators)

### MRSA or MSSA and true penicillin allergy

#### IV vancomycin dosing
- Dose as per local vancomycin policy
- NB. Vancomycin alternative may be recommended by infection specialists based on laboratory or clinical factors

### Outpatient parenteral antimicrobial therapy (OPAT) referral
- OPAT appropriateness and suitability requires evaluation by an OPAT infection specialist and specialist nurse before discharge
- Consider OPAT referral to complete treatment of SAB if: clinically improving, repeat BCs at 48 hours are negative and no other indication for hospital admission. *S. aureus* endocarditis requires minimum of 14 days of inpatient stay
- Patients at risk of not completing inpatient treatment, including people who inject drugs (PWID), may be considered by local OPAT teams, but also need assessment by the addictions team prior to discharge
- Antibiotic choice for OPAT will be locally determined

### IV to oral switch therapy (IVOST) considerations
- Consider after 2 weeks of IV therapy if deep seated or complex (non-endocarditis) infection and demonstrated clinical improvement
- Oral therapy, treatment duration, monitoring and follow up should be agreed with and supervised by an infection specialist

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Original version of guidance developed by the Scottish Antimicrobial Prescribing Group (SAPG) in collaboration with the Scottish Microbiology and Virology Network. Scottish Antimicrobial Prescribing Group February 2023 | Review date February 2026