## *SUSPECTED INFECTIVE ENDOCARDITIS*

**PROVEN INFECTIVE ENDOCARDITIS** All patients must be referred to ID/Microbiology for advice on MIC testing, treatment, duration of therapy, monitoring and follow up.

Ref: BSAC Guidelines 2012
Approved by: AMG June 2012
Updated: AMG June 2021
Review: AMG June 2024

Investigations:

Blood cultures

- Must be taken prior to starting treatment in all cases
- Meticulous aseptic technique is required when taking blood cultures (IPC policy), to reduce the risk of contamination with skin commensals, which can lead to misdiagnosis.
  - In patients with an indolent (also known as chronic or subacute) **presentation**, 3 sets of optimally filled blood cultures should be taken from peripheral sites (does not require to be different sites) with ≥6 hours between them prior to commencing antimicrobial therapy.
  - In patients with suspected infective endocarditis and **sepsis or septic shock** at the time of presentation, 2 sets of optimally filled blood cultures should be taken at different times within 1 hour prior to commencement of empirical therapy, to avoid undue delay in commencing empirical antimicrobial therapy.
  - In stable patients with suspected IE but already on antibiotic treatment seek advice from ID/Microbiology as consideration may need to be given to stopping treatment to perform blood cultures off antibiotics.
- Sampling of intravascular lines should be avoided.
- Bacteraemia is continuous in infective endocarditis, rather than intermittent, so positive results from only one set of several blood cultures should be regarded with caution.
- Blood cultures should be repeated if a patient is still febrile after 48 to 96 hours of treatment.

Empirical Treatment: All doses stated assume normal renal and hepatic function. Seek advice on dosing if patient has reduced renal or hepatic function.

- Empirical antimicrobial regimes should be based on severity of infection, type of valve affected and risk factors for unusual or resistant pathogens.
- If the patient is clinically stable, consider waiting for results of blood cultures before starting any antimicrobials.

| Type of Valve | Type of presentation | Antimicrobial | Dose | Comments |
|---|---|---|---|---|
| **Native**<br><br>**ABW = actual body weight** | **Indolent** | Amoxicillin<br><br>Consider adding Gentamicin<br><br>Discuss with ID/Micro for review | 2g IV 4 hourly<br><br>If Gentamicin prescribed, dose as per synergistic policy | If patient is stable ideally await blood culture results<br>If true penicillin allergy use Vancomycin + Gentamicin<br>Gent Levels: predose ≤1mg/l<br>1 hour post dose 3-5mg/l<br>monitor renal function daily<br>Do not delay giving dose of gentamicin while awaiting results. Gentamicin should be given as a bolus over 3-5 minutes |
| **Native** | **Sepsis** | Flucloxacillin | 2g IV 4-6 hourly | Use 4 hourly regime if >85kg |
| **Native** | **Sepsis**<br>**+ MRSA infection suspected** | Treat as per prosthetic valve | | |
| **Native** | **Sepsis**<br>**+ risk factors for resistant pathogens**<br><br>ID/Micro must be contacted on next working day to approve continued prescription of Meropenem. | Vancomycin<br><br>+<br><br>Meropenem *(if ESBL or suspicion of Pseudomonas )* | Dose as per vancomycin policy and then adjust according to levels<br><br>2g IV 8 hourly | Vanc Levels: pre dose 15-20mg/l<br>Monitor renal function daily<br><br>Risk factors for gram negative pathogens include e.g. previous colonisation/infection with resistant organisms, endovascular devices. **Refer to ID/Micro next working day.** |
| **Prosthetic**<br><br>**or**<br><br>**Native if MRSA suspected**<br><br>**ABW = actual body weight** | **All patients with prosthetic valves pending blood cultures or with negative blood cultures** | Vancomycin<br>+<br>Gentamicin<br>+<br>Rifampicin *(started 3-5 days after other antibiotics)* | Dose as per vancomycin policy and then adjust according to levels<br><br>For gentamicin dosing see synergistic policy<br><br>600mg PO 12 hourly | Vanc Levels: pre dose 15-20mg/l<br>Monitor renal function daily<br><br>Gent Levels: predose ≤1mg/l<br>1 hour post dose 3-5mg/l<br>Do not delay giving dose of gentamicin while awaiting results. Gentamicin should be given as a bolus over 3-5 minutes.<br><br>IV available if oral route compromised<br>Check for interactions and monitor LFTs |