

## Waterford: Antimicrobial Guidelines - Antimicrobial Guideline: Infective Endocarditis

### General points

Discuss all cases of suspected infective endocarditis with Clinical Microbiology or Infectious Diseases team

Prior to antibiotic therapy, 3 sets of blood cultures (aerobic and anaerobic bottle) should be obtained at 30 minute intervals from different peripheral sites. Each bottle should contain 10mL of blood.

In the setting of the acutely septic patient, do not delay antibiotic therapy, take blood cultures as soon as possible after antibiotic administration.

Duration of therapy will be determined by several factors including the organism isolated, susceptibility profile, surgical intervention etc. Typical duration for infective endocarditis is between 4 – 6 weeks.

Once a microbiologic diagnosis has been made definitive therapy should be pathogen directed.

Endocarditis diagnostic criteria ( *see references* ).

### Empiric therapy (before pathogen identification)

#### Native Valve Infective Endocarditis (Empiric Therapy)

- Amoxicillin 2g 4 hourly IV and Flucloxacillin 2g 4 hourly IV and Gentamicin 3mg/kg/once daily IV ( [please see gentamicin dosing schedule](#) )

#### Penicillin Allergy

- Vancomycin 15mg/kg/BD IV and Gentamicin 3mg/kg/once daily IV (please see [vancomycin dosing schedule](#) and [gentamicin dosing schedule](#) )

#### Prosthetic Valve Infective Endocarditis (Empiric Therapy)

- Vancomycin 15mg/kg/BD IV and Gentamicin 3mg/kg/once daily IV (please see [vancomycin dosing schedule](#) and [gentamicin dosing schedule](#) ) PLUS Rifampicin 300mg TDS PO.

*Note: Oral rifampicin is an additional agent used in the treatment of staphylococcal prosthetic valve infective endocarditis but should only be commenced following discussion with clinical microbiology or infectious diseases. Rifampicin should be administered after 3-5 days of effective antibiotic therapy or after clearance of bacteremia to minimize potential for emergence of resistance due to high bacterial burden.*

### Culture Negative Endocarditis

If blood cultures remain negative after 72 hours please discuss with Clinical Microbiologist or Infectious Diseases.

### Monitoring and Dose Adjustment

Adjust vancomycin and gentamicin dosing as per dosing schedules for renal dysfunction and obesity.

Note: Gentamicin is administered as a synergistic agent in the treatment of infective endocarditis - typical duration of gentamicin therapy is 2 weeks

### References

- 2023 ESC Guidelines for the management of endocarditis. European Society of Cardiology (ESC), European Heart Journal, Volume 44, Issue 39, 14 October 2023 <https://doi.org/10.1093/eurheartj/ehad193>
- Fowler VG, et al. The 2023 Duke-International Society for Cardiovascular Infectious Diseases Criteria for Infective Endocarditis: Updating the Modified Duke Criteria. Clin Infect Dis. 2023 Aug 22;77(4):518-526. <https://doi.org/10.1093/cid/ciad271>