

# Letterkenny University Hospital - LUH Antimicrobial Prescribing Policy/Guidelines: Intravascular Line

## Intravascular Line

**Blood cultures** should be taken if the patient appears septic and/or if the patient has a central or peripheral vascular catheter (CVC/PVC) exit site infection indicated by the presence of cellulitis or thrombophlebitis. Two sets of blood cultures should be taken using aseptic technique from all patients with suspected intravascular catheter-related infection.

- For CVCs either through the CVC and peripherally or through different lumens of the CVC if blood cultures cannot be drawn from a peripheral vein.
  - If it is a triple or quad lumen CVC please take 3 sets of cultures: one peripherally, and the other two from two different lumens. Please ensure these are clearly labelled.
2. If evidence of exit site infection, a **swab** should be taken from the site.
  3. All PVCs must be removed promptly when there is clinical evidence of infection.
  4. Management of a CVC-related infection depends on the type of CVC involved, the infecting organism and the associated complications. Recommend a discussion with Microbiology. If the CVC is removed (always conducted under aseptic technique), the tip of the central line should be sent to the microbiology lab in a universal container for culture and sensitivity testing, cut to 4cm in length following removal.
  5. **If blood cultures are positive, please discuss with Microbiology.** Repeat cultures may be required to document clearance of the bacteraemia, this is dependent on the infecting organism.
  6. Infection at the site of CVC/PVC, with no systemic features of sepsis and with negative blood cultures may be treated as a skin/soft tissue infection. Treatment is as follows:
    - **Removal** of the PVC is essential. Removal of the CVC may be indicated as part of the initial treatment, recommend a discussion with Microbiology.
    - Initial therapy should be with **Vancomycin IV**.
    - Review at 48 hours and consider switch to Flucloxacillin or other antibiotic if appropriate, based on culture and sensitivity and MRSA results.
  7. An antibiotic lock solution is very occasionally recommended by Microbiology. If indicated, contact Microbiology for protocol.

Empiric Antibiotics for Intravascular Line Infections		
Infection	1 <sup>st</sup> Line	Comment
Central and Peripheral IV Catheter Exit Site Infection  See notes above	<a href="#">Vancomycin</a> IV infusion, dose per LAPP App calculator. See footnote* re monitoring.  Review at 48 hours, change to pathogen directed therapy based on culture & sensitivity	Duration 7 to 10 days
Peripheral Line-related Infection and/or Bacteraemia	<a href="#">Vancomycin</a> IV infusion, dose per LAPP App calculator. See footnote* re monitoring.  Review at 48 hours, change to pathogen directed therapy based on culture & sensitivity	Duration minimum 14 days, for exceptions see algorithm for <a href="#">NON-tunnelled CVC bacteraemia</a> .
Central Line-related Infection and/or Bacteraemia  Remove CVC and send tip to microbiology	<a href="#">Vancomycin</a> IV infusion, dose per LAPP App calculator. See footnote* re monitoring.  + <a href="#">Gentamicin</a> IV <b>one dose</b> per LAPP App calculator <b>and review</b> . See footnote* re further doses and monitoring.  If blood cultures are positive treat as per Microbiology advice.	Duration varies by type of line, organism and complications. A prolonged course may be required.  See algorithms for <a href="#">NON-tunnelled CVC bacteraemia</a> and <a href="#">tunnelled CVC/port bacteraemia</a> .  When denoting duration of antimicrobial therapy day 1 is the first day on which negative blood cultures are obtained.
* Review need for ongoing Gentamicin & Vancomycin on a daily basis. Continue with <b>once daily Gentamicin</b> dosing ONLY if <b>Consultant/Registrar</b> recommended. For advice on monitoring see <a href="#">Aminoglycoside &amp; Vancomycin</a> Dosing & Monitoring section.		

### References:

1. HSE/RCPI/HCAI Prevention of Intravascular Catheter-related Infection in Ireland Partial Update of 2009 Guidelines September [2014](#)
2. IDSA Guidelines for the diagnosis and management of intravascular catheter-related infection. [Clin Infect Dis 2009;49:1-45](#)

### Algorithm for Management of NON-tunnelled CVC Bacteraemia

### Algorithm for Management of tunnelled CVC/ Port Bacteraemia

**NON-tunnelled CVC/port bacteraemia.**

**Tunnelled CVC/port bacteraemia.**