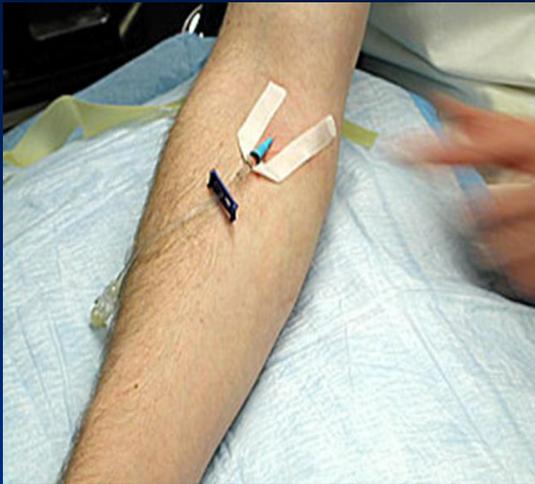


Prevention Strategies for Device-Related Infections – Q&A



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Apr 2015

Which of the following is not a general principle of antimicrobial prophylaxis ?

1. The operation carries a significant risk of bacterial contamination
2. Choose an agent that is bactericidal for likely pathogens
3. The shortest course of the most effective and least toxic antibiotic should be used
4. The antibiotic chosen should achieve concentrations > than MIC of the suspected pathogens in the wound site
5. Administer within 60 minutes of the incision

Which of the following is not a recommendation for prevention of central catheter related infection based on RCT level evidence ?

1. Use of alcoholic chlorhexidine antiseptic for skin preparation
2. Choice of the femoral site
3. Use antimicrobial ointments for hemodialysis catheter insertion sites
4. Ensure appropriate nurse-to-patient ratio in the ICU setting
5. Use of maximal barrier precautions for insertion

Pre-Insertion

- Minimize unnecessary CVC (III)
- Require education of HCEs involved in insertion, care, and maintenance of CVCs (II)
 - Complete educational program and renew at intervals
 - Credentialling
 - Use of simulation
- Bathe ICU patients over 2 months of age with a chlorhexidine preparation daily (I)
 - Role in non ICU patients unknown
 - Unresolved issue in pediatric patients < 2 months

Peri-Insertion

- Process in place to ensure adherence to infection prevention practices at the time of CVC insertion (II)
 - Document adherence to aseptic technique (checklist or direct observation)
- Hand hygiene prior to insertion (II)
- Avoid femoral site (I)
- Use of pre loaded cart for supplies (II)
- Use US guidance for IJ (II)
- Maximal barrier precautions (II)
- Alcoholic chlorhexidine antiseptic for skin preparation (I)

Post-Insertion

- Ensure appropriate nurse-to-patient ratio and limit the use of float nurses in ICUs (I)
- Disinfect catheter hubs, needleless connectors, and injection ports before accessing the catheter (II)
 - Use CHG or alcohol or PI
 - Friction for no < 5 sec
 - Monitor compliance
- Remove nonessential catheters (II)
- For non-T CVCs Δtransparent dressings and perform site care with a GHG antiseptic q5-7d; gauze q2d; immediately if soiled, loose, or wet (II)

Marschall et al Strategies to Prevent Central Line–Associated Bloodstream Infections in Acute Care Hospitals:

2014 Update Infection Control / Volume 35 / Issue 07 / July 2014, pp 753 – 771 DOI: 10.1086/591059, Published online: 02 January 2015

Case presentation

An 74 year old with no co-morbidities is going for a new pacemaker insertion for sustained atrial fibrillation with slow ventricular response. Is antimicrobial prophylaxis indicated for this procedure?

1. No since studies have shown no benefit for non-revision pacemaker procedures
2. Discretionary based on the patient profile since the studies are equivocal
3. Yes since there have been sufficient studies for both primary and revision pacemaker insertion to warrant prophylaxis

Prophylaxis: Agents, Timing Cardiac Device Insertion

- Meta-analysis of 15 prospective, randomized, controlled, mainly open label studies evaluated the effectiveness of systemic antimicrobial prophylaxis c/t controls (no antimicrobials) on SSI rates after pacemaker implantation
- Consistent and significant protective effect of antimicrobial prophylaxis was found
- General consensus: Administer within **60 min** before incision
- Single dose of cefazolin or cefuroxime is recommended for device implantation or generator replacement .