

Before donning and after removal of gloves

After using the restroom.



Maximal barrier precautions Applying maximal barrier precautions means covering the patient with a sterile drape having a small opening for the site of insertion, and use of cap, mask, sterile gown and gloves by the inserting clinician.

Chlorhexidine skin antiseptics Whenever possible and not contraindicated, the subclavian site should be preferred over the jugular and femoral sites for non-tunnelled catheter in adult patients.

Daily review of central line necessity daily review of all central lines will prevent unnecessary delays in removing lines that are no longer clearly needed. Routine replacement of lines has not been shown to impact infection rates.



This brochure provides basic general information only, and is to be used as a guide, not as a complete resource on the subject.....

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PACIFIC HOSPITAL OF LONG
BEACH

SURVEILLANCE PREVENTION
AND CONTROL OF INFECTIONS

Preventing Central Line- Associated Bloodstream Infections



*Making your health
care Safer.*

BACKGROUND

As the setting change in which patient care is provided, so do the risks and complexities associated with care. Patients with central venous catheters (CVCs), particularly those for whom long-term vascular access is needed, are seen increasingly in the inpatient, outpatient, and home care setting. The process of inserting these catheters disrupts skin integrity and increases the risk of bacterial infection. These infections may result in serious harm to the patient, including death. It has been estimated that CVCs are associated with almost 90% of all bloodstream infections. Strict adherence to guidelines has demonstrated that these infections are largely preventable.

COST

Central line-associated bloodstream infections (CA-BSI) prolong hospitalization by approximately 7 days and have an estimated attributable cost of between \$3,700 and \$29,000.

MORTALITY

Approximately 50% of patients in an Intensive Care Unit have a CVC accounting for about 15 million catheter days each year. It has been estimated that there are approximately 250,000 CA-BSIs each year and studies have suggested that mortality attributable to these infections is between 4% and 20%

resulting in an estimated 500 to 4,000 patient deaths each year in the U.S.

PATHOGENESIS

Potential sources of infection include skin organisms, contamination of the catheter hub, contaminated infusate, and hematogenous colonization of the catheter from a distant, unrelated site of infection.

The microbial profile of CA-BSIs includes:

- * Coagulase-negative staphylococci 31%
- * Staphylococcus aureus 18%
- * Candida spp. 6%
- * Enteric gram-negative bacilli 14%
- * Miscellaneous 14%

PREVENTION

Specific preventive activities have long been identified but have not been consistently applied. The Institute for Healthcare Improvement (IHI) has taken these activities and “bundled” them into an organized process and has included them in their 100,00 Lives Campaign. The elements of this central line bundle are identical to those stressed and taught by the Healthcare Infection

Control Practice Advisory Committee (HICPAC).

The central line bundle consists of five key components:

1. Hand hygiene
2. Maximal barrier precautions
3. Chlorhexidine skin antisepsis
4. Optimal catheter site selection with the subclavian vein as the preferred site for non-tunneled catheter
5. Daily review of line necessity with prompt removal of unnecessary lines.

Hand hygiene is an essential component in the placement and follow-up of the care, and must be practiced as follows:

Before and after palpating the catheter insertion site during site assessment

Before and after inserting, replacing, accessing, repairing, or dressing an intravascular catheter

Between patient