



PREVENT CENTRAL LINE-ASSOCIATED BLOODSTREAM INFECTIONS (CLABSI)

The 4 infection prevention Best Care Always! Interventions:

- VAP – Ventilator-associated-Pneumonia
- CLABSI – Central-line associated Bloodstream Infections
- SSI – Surgical Site Infections
- UTI – Urinary Tract Infections

Best Care Always Pilot Intervention:

- Antibiotic Stewardship

Goal:

To prevent CLABSI by consistently and effectively implementing all elements of the “Central Line Bundle”.

A “bundle” is a collection of processes needed to effectively and safely care for patients undergoing particular treatments with inherent risks. Several interventions are “bundled” together and, when combined, significantly improve patient care outcomes.

Background:

- Ninety percent of catheter related bloodstream infections occur with central venous catheters (CVCs)
- Central Line Infections (CLABSI) prolong hospitalization by seven days and CLABSI mortality [controlled for underlying severity] is between 4% and 20%
- The odds ratio for CLABSI was 2.2 – 6.6 times greater for infection without maximum barrier precautions.

Intervention:

Central Line Bundle

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

Other evidence-based elements of care are not excluded and may be added to the Central Line Bundle by individual facilities, for example:

- Line is secured
- Dressing is clean and intact

We are engaging with our collaborative partners to understand any key differences for the South African setting and will be updating the CLABSI One-Pager as this work is finalized. Please submit any suggestions for improvement to info@bestcare.org.za.

For more in depth information and implementation guidelines consult the “Getting Started Kits”

References and Resources:

- Mermel LA. Ann Intern Med. 2000; 132(5): 391-402.
- O'Grady NP, et.al. "Guidelines for the prevention of intravascular catheter related infections". Centers for Disease Control and Prevention. MMWR Recomm Rep. Aug 9 2002; 51 (RR-10):10 www.cdc.gov/mmwr/PDF/rr/rr5110.pdf

- Institute for Healthcare Improvement. 5 Million Lives Campaign www.ihl.org
- Safer Healthcare Now! Campaign. www.saferhealthcarenow.ca

We wish to thank and acknowledge the Institute for Healthcare Improvement (IHI) and the Canadian Safer Healthcare Now! campaigns, particularly the extensive resources made available on their websites. Links are provided to both these websites for further support.



Intervention Measures:

- **CLABSI rate:**
Catheter-associated bloodstream infections / number of central line days x 1000
- **CLABSI bundle compliance rate**

The focus for phase one is to develop measurement capability. Goals will be set by individual facilities.

Examples of measurements and goals of compliance are:

1. CLABSI rate: Goal - decrease the CLABSI rate by 30% in one year. Achieve 60 days with no CLABSI.
2. CLABSI bundle compliance: Goal - 90% all patients with central lines in the intensive care units receive all elements of a Central Line Bundle

Definition of CLABSI:

Laboratory confirmed BSI: must meet at least one of the following criteria:

CRITERION 1:

Patient has a recognised pathogen cultured from one or more blood cultures, and the pathogen cultured from the blood is not related to an infection at another site

CRITERION 2

Patient has at least one of the following signs or symptoms: fever [38 C]; chills; or hypotension, and signs and symptoms and positive laboratory results are not related to an infection at another site, and at least one of the following:

- Common skin contaminant [e.g. Corynebacterium spp, Bacillus spp, Propionibacterium spp, coagulase-negative staphylococci or micrococci] cultured from 2 or more blood cultures drawn on separate occasions
- Common skin contaminant [e.g. Corynebacterium spp, Bacillus spp, Propionibacterium spp, coagulase-negative staphylococci or micrococci] is cultured from at least one blood culture from a patient with an intravascular line, and the physician institutes appropriate antimicrobial therapy.
- Positive antigen test on blood [e.g. H influenzae, S pneumoniae, N meningitidis, or Group B streptococcus]
Only primary BSI's are counted.

The Website contains the full Getting Started Kit, and links to other resources for this strategy.