

## Central line bundle maintenance among adults in intensive care unit: a best practice implementation project

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### Track

1. Implementação de evidências

### Keywords

Evidence-Based Nursing, Catheter-Related Infections, clinical audit Background: Central venous catheter (CVC) is considered an important therapeutic resource for the administration of fluids, drugs, blood, collection of blood samples and hemodynamic monitoring. Despite the benefits, catheter use is associated with complications, such as primary infection of the catheter-related bloodstream. The motivation for selecting this best practice implementation project was due to the increase of bloodstream infection related to the central venous catheter in the Adult Intensive Care Unity (AICU) in University Hospital of the University São Paulo in July, August and September 2016. This raised a concern because no cases of infection occurred in the previous seven months. With that, Infection prevention measures were reviewed, being was critical to review and evaluate current practices and to implement the best practices concerning CVC's maintenance for the prevention of catheter-related bloodstream infection. Objectives: The implementation project aimed to identify the current practice in regards to CVC maintenance, to improve knowledge amongst nursing staff and to assess the increased compliance with evidence based best practice. Methods: This project utilized the audit and feedback model using the Joanna Briggs Institute Practical Application of Clinical Evidence System, consisted of three phases over a period of six months, from November 2016 to May 2017: Baseline audit, Implementation of best practice and Follow-up audit. A baseline audit was conducted prior to the best practice implementation over a period of 15 days, and follow-up audit for one week. An assessment tool was used to collect data. Nine of the ten criteria were audited through direct observation of nursing professionals or patient records in relation to CVC maintenance, and one criterion was questioned to the staff nursing. The sample was composed by critical inpatients, requiring clinical or surgical treatment in the AICU in a University Hospital, in use of short-term non-tunneled central venous catheter, aged 15 years old or more. We evaluated 13 patients in the baseline audit, and 11 patients in the post-implementation audit. The sample also comprised nursing staff from the AICU, composed by 18 nurse practitioners and 29 nurse technicians.

### Results

The baseline audit revealed deficits between current practice and best practice in some criteria. Barriers for implementation of CVC maintenance best practice criteria were identified, and the strategies were implemented. The post-implementation (follow-up) audit showed improvement in compliance to best practice guidelines in all of the audit criteria selected, except in one criterion, the use of sterile gloves or surgical tweezers during the execution of the dressing.

### Conclusions

Best practices in CVC care were achieved in the hospital strengthening and guiding nursing care, as well as highlighting the importance of nursing records in care process. However, this report reflects the need to improve compliance, and the follow-up audits and periodic training to support best practice.