

Decreasing Central Line Infections with Evidence-Based Practice

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Problem: Increase in infections noted in central venous catheter (CVC) lines in the Adult Medical/Surgical Intensive Care Unit (Benchmark 3.2/1000 device days, 7/1000 device days noted in one month).

Evidence: Center for Disease Control (CDC) and Institute of Healthcare Improvement (IHI) literature on decreasing CVC infections were gathered and reviewed.

Strategy: National Institute of Health Services (NIHS) benchmarks were utilized. Initial data was gathered about the nature of central line infections via a Central Line Audit Tool. This tool included aspects such as patient symptoms, cultures and culture sites, and the date the central line was placed. This evidence was then used to create a Central Line Insertion Safety Checklist to use during all central line insertions.

Practice Change: Aspects of the IHI Central Line Bundle were incorporated into practice with Safety Checklist reminders, to include: handwashing, site preparation with chlorhexidine, maximum barriers, and sterile field maintenance. The utilization of the Central Line Insertion Safety Checklist provided a visual prompt, as well as a screening tool of whether these safety aspects were done.

Evaluation: The Central Line Audit Tool was again utilized to track the number and nature of infections after the Central Line Bundle and Safety Checklist were instituted.

Results: 7 consecutive months with no CVC infections were noted following the practice change. Only one month went over the benchmark following institution of the checklist.

Recommendations: Continue utilizing Central Line Bundle and safety checklist and initiate additional aspects of the IHI Central Line Bundle by adding in screening for line necessity. Examine each specific infection that occurs in detail to attempt to determine causative factors. Create specific criteria for evaluating line necessity and use this criteria in determining whether to maintain or discontinue central lines.

Bibliography

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