We assessed the colonization of the split septum catheter connector system, and subsequently the luer lock catheter connector system” Hankins et al (2019).

Abstract:

Background: Central line–associated bloodstream infections may be due to catheter connector colonization and intraluminal migration of pathogens. We assessed the colonization of the split septum catheter connector system, and subsequently the luer lock catheter connector system.

Methods: This was a prospective, 2 phase, quality improvement study at a tertiary referral center. Each phase of the study was performed over 3 consecutive days in hospitalized patients receiving an active infusion; first with a split septum lever lock connector and second with a luer lock connector and alcohol port protector. The connectors were inoculated onto blood agar plates and incubated. Plates were assessed for microbial growth after 48-72 hours.

Results: In phase I, 98 (41.9%) of 234 split septum connectors yielded microbial growth. In phase II, 56 (23.1%) of 243 luer lock connectors yielded microbial growth. In phase II only, there was a significant increased rate of contamination in peripheral catheters compared with all other catheters, and the rate of contamination on the acute care wards was significantly higher when compared with the intensive care units.
Conclusions: Bacterial colonization of the lever lock system was unacceptably high among all catheter types and hospital locations. Transition to luer lock catheter connectors and alcohol port protectors decreased the colonization; however, colonization still remained substantial. Causation of colonization cannot be determined with these results.

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