



“...assess the impact of a novel, silver-coated needleless connectors (NCs) on central-line-associated bloodstream infection (CLABSI) rates compared with a mechanically identical NCs without a silver coating” Jacob et al (2015).

Reference:

Jacob, J.T., Chernetsky Tejedor, S., Dent Reyes, M., Lu, X., Easley, K.A., Aurand, W.L., Garrett, G., Graham, K., Holder, C., Robichaux, C. and Steinberg, J.P. (2015) Comparison of a silver-coated needleless connector and a standard needleless connector for the prevention of central line-associated bloodstream infections. *Infection Control and Hospital Epidemiology*. 36(3), p.294-301.

Comparison of a silver-coated needleless connector and a standard needleless connector
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Abstract:

OBJECTIVE: To assess the impact of a novel, silver-coated needleless connectors (NCs) on central-line-associated bloodstream infection (CLABSI) rates compared with a mechanically identical NCs without a silver coating.

DESIGN: Prospective longitudinal observation study.

SETTING: Two 500-bed university hospitals.

PATIENTS: All hospitalized adults from November 2009 to June 2011 with non-hemodialysis central lines.

INTERVENTIONS: Hospital A started with silver-coated NCs and switched to standard NCs in September 2010; hospital B started with standard NCs and switched to silver-coated NCs. The primary outcome was the difference revealed by Poisson multivariate regression in CLABSI rate using standard Centers for Disease Control and Prevention surveillance definitions. The secondary outcome was a comparison of organism-specific CLABSI rates by NC type.

RESULTS Among 15,845 hospital admissions, 140,186 central-line days and 221 CLABSIs were recorded during the study period. In a multivariate model, the CLABSI rate per 1,000 central-line days was lower with silver-coated NCs than with standard NCs (1.21 vs 1.79; incidence rate ratio=0.68 [95% CI: 0.52-0.89], P=.005). A lower CLABSI rate per 1,000 central-line days for the silver-coated NCs versus the standard NCs was observed with *S. aureus* (0.11 vs 0.30, P=.02), enterococci (0.10 vs 0.27, P=.03), and Gram-negative organisms (0.28 vs 0.63, P=.003) but not with coagulase-negative staphylococci (0.31 vs 0.36) or *Candida* spp. (0.42 vs 0.40).

CONCLUSIONS The use of silver-coated NCs decreased the CLABSI rate by 32%. CLABSI reduction efforts should include efforts to minimize contamination of NCs.

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