



To assess the impact of a newly developed Central-Line Insertion Site Assessment (CLISA) score on the incidence of local inflammation or infection for CLABSI prevention” Gohil et al (2019).

Abstract:

OBJECTIVE: To assess the impact of a newly developed Central-Line Insertion Site Assessment (CLISA) score on the incidence of local inflammation or infection for CLABSI prevention.

DESIGN: A pre- and postintervention, quasi-experimental quality improvement study.

SETTING AND PARTICIPANTS: Adult inpatients with central venous catheters (CVCs) hospitalized in an intensive care unit or oncology ward at a large academic medical center.

METHODS: We evaluated CLISA score impact on insertion site inflammation and infection (CLISA score of 2 or 3) incidence in the baseline period (June 2014-January 2015) and the intervention period (April 2015-October 2017) using interrupted times series and generalized linear mixed-effects multivariable analyses. These were run separately for days-to-line removal from identification of a CLISA score of 2 or 3. CLISA score interrater reliability and photo quiz results were evaluated.

RESULTS: Among 6,957 CVCs assessed 40,846 times, percentage of lines with CLISA score of 2 or 3 in the baseline and intervention periods decreased by 78.2% (from 22.0% to 4.7%),

with a significant immediate decrease in the time-series analysis ($P < .001$). According to the multivariable regression, the intervention was associated with lower percentage of lines with a CLISA score of 2 or 3, after adjusting for age, gender, CVC body location, and hospital unit (odds ratio, 0.15; 95% confidence interval, 0.06-0.34; $P < .001$). According to the multivariate regression, days to removal of lines with CLISA score of 2 or 3 was 3.19 days faster after the intervention ($P < .001$). Also, line dwell time decreased 37.1% from a mean of 14 days (standard deviation, 10.6) to 8.8 days (SD, 9.0) ($P < .001$). Device utilization ratios decreased 9% from 0.64 (SD, 0.08) to 0.58 (SD, 0.06) ($P = .039$). CONCLUSIONS: The CLISA score creates a common language for assessing line infection risk and successfully promotes high compliance with best practices in timely line removal.

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Reference:

Gohil, S.K., Yim, J., Quan, K., Espinoza, M., Thompson, D.J., Kong, A.P., Bahadori, B., Tjoa, T., Paiji, C., Rudkin, S., Rashid, S., Hong, S.S., Dickey, L., Alsharif, M.N., Wilson, W.C., Amin, A.N., Chang, J., Khusbu, U. and Huang, S.S. (2019) Impact of a Central-Line Insertion Site Assessment (CLISA) score on localized insertion site infection to prevent central-line-associated bloodstream infection (CLABSI). *Infection Control and Hospital Epidemiology*. November 8th. doi: 10.1017/ice.2019.291. .

