PICC malpositioning is a significant source of inefficiency, especially for inpatient services, that should be addressed to reduce expenditures and maximize patients’ perceptions of quality health care” Keller et al (2016).

Abstract:

Background: To assess the technical success of ultrasound (US)-guided peripherally inserted central catheter (PICC) placement at a large academic medical center and evaluate the direct and indirect costs associated with malpositioned catheters.

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Methods: This retrospective chart review consisted of 250 consecutive inpatients and 150 consecutive outpatients (N = 400, aged 58 ± 17 years, 225 men and 175 women) who underwent US-guided PICC placement at a single center. Repositioning rates were compared between high-complexity (inpatient) and low-complexity (outpatient) groups using a $\chi^2$ test and phi coefficient. Initial and final catheter tip position was assessed by radiography. Direct costs of repositioning were estimated using Medicare reimbursement rates. Indirect costs, including additional staff time, imaging, and delays in treatment, were assessed via a survey of PICC nurses and chart reviews.
Results: Initial PICC placement resulted in an optimal tip position in 34% of patients and an optimal or acceptable position in 84% of patients. Repositioning rates were significantly higher for inpatients with a low to moderate association between inpatient PICC placement and the need for repositioning ($\chi^2 = 9.603$, $P = .002$; $\phi = 0.155$, $P = .002$). In total, 77 catheters required repositioning, costing on average an additional $186.03 and 50 minutes of staff time per catheter as well as delaying catheter use in 23 patients for at least 24 hours.

Conclusions: PICC malpositioning is a significant source of inefficiency, especially for inpatient services, that should be addressed to reduce expenditures and maximize patients’ perceptions of quality health care.

Reference:


DOI: http://dx.doi.org/10.1016/j.java.2016.05.002.

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