



Femoral tunneled central line placement in the pediatric population offers an alternative means for intravenous (IV) access, but there is concern for higher complication and infection rates when placed at bedside” Chau et al (2018).

Abstract:

BACKGROUND: Femoral tunneled central line placement in the pediatric population offers an alternative means for intravenous (IV) access, but there is concern for higher complication and infection rates when placed at bedside.

OBJECTIVE: To describe the complications and infection outcomes of primary femoral tunneled central venous catheter placement in the interventional radiology suite compared to the portable bedside location at a single tertiary pediatric institution.

MATERIALS AND METHODS: We conducted a retrospective review comparing interventional radiology suites vs. bedside primary tunneled common femoral vein central line placement (January 2014 to December 2015). We identified 244 primary femoral placements in pediatric patients, ages 1 day to 18 years, using our electronic medical record and collected into a Research Electronic Data Capture. We compared categorical variables using the Fisher exact test. We compared continuous variables using the Wilcoxon rank test.

RESULTS: In total, 2,375 pediatric patients received peripherally inserted and central lines;

244 of these were primary femoral tunneled central venous catheters (in 140 boys and 104 girls). In 140 children (mean age: 206 days), lines were inserted in the interventional radiology (IR) suite (technical success of 100%), with 14 (10.0%) complications including infection (n=7), malposition (n=2), bleeding (n=0), thrombosis (n=1) and line occlusion (n=4). The infection rate was 2.1 per 1,000 line days. In 104 children (mean age: 231 days), lines were placed at bedside (technical success 100%) with 14 (13.3%) complications including infection (n=3), malposition (n=5), bleeding (n=0), thrombosis (n=2) and line occlusion (n=4). The infection rate was 0.78 per 1,000 line days. The total line days were 7,109, of which 3,258 were in the IR suite and 3,851 in the bedside group. There was no statistical significance for complication rate (P=0.55) or infection rate (P=0.57) between bedside and interventional suite placements.

CONCLUSION: In a cohort of children receiving primary femoral tunneled central venous catheters, the complication and infection rates in a bedside setting are not significantly increased compared to the lines placed in an IR suite. The perception of increased infection and complications from bedside-placed tunneled central venous catheters appears to be hyperbolized.

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Reference:

Chau, A., Hernandez, J.A., Pimpalwar, S., Ashton, D. and Kukreja, K. (2018) Equivalent success and complication rates of tunneled common femoral venous catheter placed in the interventional suite vs. at patient bedside. *Pediatric Radiology*. February 8th. .

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