

To determine the safety of peripherally inserted central catheter (PICC) use for delivery of outpatient parenteral antimicrobial therapy (PAT) in children discharged to rural or urban locales. We hypothesized that children from rural settings would experience higher complication rates” Beachum et al (2018).

Abstract:

OBJECTIVES: To determine the safety of peripherally inserted central catheter (PICC) use for delivery of outpatient parenteral antimicrobial therapy (PAT) in children discharged to rural or urban locales. We hypothesized that children from rural settings would experience higher complication rates.

PATIENTS AND METHODS: We conducted a retrospective cohort study of children admitted to an academic medical center in the Southwestern United States over 9 years who were discharged with a PICC to complete a course of PAT with follow-up at our institution. To classify rural versus urban residence, we used rural-urban continuum codes from the US Department of Agriculture, the driving time in hours to the nearest trauma center, and the discharging center using Google Maps.

RESULTS: In total, 221 children met inclusion criteria (mean age 9.8 years). Osteoarticular infections and cystic fibrosis exacerbations were the most common indications for PICC use (68.8%). The mean driving time to the discharging hospital was significantly longer for those children residing in the most rural regions of the state (3.6 vs 0.8 hours; $P < .001$) as well as to the nearest level 1, 2, or 3 trauma center (2.2 vs 0.4 hours; $P < .001$). PICC complications occurred in 47 children (21.3%). No association was found between rural-urban continuum codes, driving times to the discharging hospital, or nearest trauma center with any complication nor with complications overall. **CONCLUSIONS:** In our study, we demonstrate an equivalent safety profile for children in rural and urban settings with PICCs for receipt of outpatient PAT.

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Reference:

Beachum, N. and Dehority, W. (2018) Safety of Peripherally Inserted Central Catheter Use in Children From Rural Versus Urban Settings Receiving Long-term Parenteral Antimicrobial Therapy. Hospital Pediatrics. December 14th. .

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