

Long peripheral catheters (LPCs) offer a quick, simple and cost-effective alternative for venous access in intensive care patients with difficult venous access, but the decision to use them must be balanced against an assessment of harm” Badger (2019).

Abstract:

PURPOSE: Long peripheral catheters (LPCs) offer a quick, simple and cost-effective alternative for venous access in intensive care patients with difficult venous access, but the decision to use them must be balanced against an assessment of harm. The aim of this systematic review was to synthesise reports of complications associated with LPCs.

METHODS: The electronic databases MEDLINE, EMBASE and CINAHL were searched systematically for randomised controlled trials, cohort studies and case control studies published in the period 1966 to 24th July 2018 reporting LPC associated occlusion, catheter related blood stream infections, phlebitis and infiltration. Study quality was assessed using the Methodological Index for Non-Randomised Studies. The studies were described and participant characteristics; type of catheter; setting; average dwell time; and rates of occlusion, catheter related blood stream infection, phlebitis and infiltration were extracted as summary measures.

RESULTS: Five cohort studies and one randomised controlled study, comprising a total of 350 participants, fulfilled the inclusion criteria. Dwell time ranged from 1 to 15 days and the reported complication rate was 3-14%. The most common complication was catheter occlusion (4%), followed by phlebitis (1%), infiltration (0.9%), and catheter related blood stream infection (0.3%). Significant heterogeneity, particularly in identification and reporting of complications, means results should be interpreted with caution.

CONCLUSION: There is a lack of intervention specific and adequately powered randomised controlled trials investigating LPCs in an intensive care setting. Until the results of such studies are available, LPCs should be used as an alternative to ultrasound-guided PVCs in well monitored acute care environments.

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Reference:

Badger, J. (2019) Long peripheral catheters for deep arm vein venous access: A systematic review of complications. *Heart & Lung*. January 16th. .

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