



To compare the risks of catheter-related complications between peripherally inserted central catheters placed via the upper and lower extremities in neonatal intensive care units” Chen et al (2019).

Abstract:

**OBJECTIVE:** To compare the risks of catheter-related complications between peripherally inserted central catheters placed via the upper and lower extremities in neonatal intensive care units.

**RESEARCH METHODOLOGY:** PUBMED, EMBASE, SCOPUS, and the Cochrane Library databases were searched from inception to 3 January 2019. All studies were of patients in neonatal intensive care units who underwent insertion of peripherally inserted central catheters and were published in English.

**RESULTS:** Eight studies covering 4405 peripherally inserted central catheters were included. The upper extremity group was associated with a higher risk of non-elective removal (OR = 1.41; 95% 1.16-1.72; p = 0.0007) and malposition (OR = 4.52, 95% CI 2.16-9.47; p < 0.0001) and a lower risk of thrombosis (OR = 0.23, 95% CI 0.07-0.77; p = 0.02) compared with the lower extremity group. There was no significant difference in mechanical complications, catheter-related infection, or phlebitis. **CONCLUSION:** This meta-analysis showed that the lower extremity group was not associated with worse outcomes compared

with the upper extremity group in the neonatal intensive care unit, with the exception of thrombosis. However, further prospective randomised controlled studies are needed to ensure the quality of the results.

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### Reference:

Chen, H., Zhang, X., Wang, H. and Hu, X. (2019) Complications of upper extremity versus lower extremity placed peripherally inserted central catheters in neonatal intensive care units: A meta-analysis. *Intensive & Critical Care Nursing*. August 21st. doi: 10.1016/j.iccn.2019.08.003. .

