

To determine what factors other than arm position and accessed vein might influence the tip position of a PICC” Gnannt et al (2016).

Abstract:

BACKGROUND: The position of the tip of a peripherally inserted central catheter (PICC) is crucial; malposition can lead to malfunction of the line or life-threatening events (e.g., arrhythmias, perforation).

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OBJECTIVE: To determine what factors other than arm position and accessed vein might influence the tip position of a PICC.

MATERIALS AND METHODS: Inclusion criteria were upper limb PICC placement, body weight

RESULTS: We included 112 children who received a PICC (42 girls/70 boys, mean age 31 ± 13 months, mean weight 6.5 ± 4.9 kg). The overall range of central tip movement was -1 to +4 rib units (mean $+0.8\pm 0.7$ rib units). Silicone PICCs moved significantly less than polyurethane PICCs ($P<0.05$). PICCs placed in the cephalic vein moved significantly less than those placed in other veins ($P<0.05$). Patient demographics and PICC characteristics (size, number of lumens, left or right arm accessed, length of the line) did not influence the range of central tip movement of a PICC ($P>0.05$).

CONCLUSION: Silicone PICCs and PICCs inserted into the cephalic vein move less than PICCs made of polyurethane and PICCs inserted into the brachial and basilic veins. These findings might assist operators in deciding which PICC to place in children in a given clinical context.

Reference:

Gnannt, R., Connolly, B.L., Parra, D.A., Amaral, J., Moineddin, R. and Thakor, A.S. (2016) Variables decreasing tip movement of peripherally inserted central catheters in pediatric patients. *Pediatric Radiology*. June 7th. .



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