

## **The aim of our study was to compare the BST with the fluoroscopically guided technique (FGT), with specific regard to catheter tip position (CTP)” Glauser et al (2016).**

### Abstract:

**OBJECTIVE:** Peripherally inserted central catheter (PICC) use continues to increase, leading to the development of a blind bedside technique (BST) for placement. The aim of our study was to compare the BST with the fluoroscopically guided technique (FGT), with specific regard to catheter tip position (CTP).

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**MATERIALS AND METHODS:** One hundred eighty patients were randomized to either the BST or the FGT. All procedures were done by the same interventional team and included postprocedural chest X-ray to assess CTP. Depending on the international guidelines for optimal CTP, patients were classified in three types: optimal, suboptimal not needing repositioning, and nonoptimal requiring additional repositioning procedures. Fisher's test was used for comparisons.

**RESULTS:** One hundred seventy-one PICCs were successful inserted. In the BST groups, 23.3% of placements were suboptimal and 30% nonoptimal, requiring repositioning. In the FGT group, 5.6% were suboptimal and 1.1% nonoptimal. Thus, suboptimal and nonoptimal CTP were significantly lower in the FGT group ( $p < 0.001$ ).

**CONCLUSION:** Tip malposition rates are high when using blind BST, exposing the patient to an increased risk of deep venous thrombosis and catheter malfunction. Using the FGT or emerging technologies that could help tip positioning are recommended, especially for long-term indications.

### KEY POINTS:

Bedside and fluoroscopy guided techniques are commonly used for PICC placement.



Catheter malposition is the major technical issue with the bedside technique.  
Catheter malposition occurred in 53% of patients with the bedside technique.

Reference:

Glauser, F., Breault, S., Rigamonti, F., Sotiriadis, C., Jouannic, A.M. and Qanadli, S.D.  
(2016) Tip malposition of peripherally inserted central catheters: a prospective randomized controlled trial to compare bedside insertion to fluoroscopically guided placement. European Radiology. December 12th. .

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