

## A REAL TIME COMPARISON OF PICC TIP POSITIONING USING FLUOROSCOPY AND AN ECG TIP CONFIRMATION AND NAVIGATION SYSTEM (TCS) TO ELIMINATE THE NEED FOR CHEST X-RAY POST INSERTION

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**Introduction:** ECG tip navigation and confirmation systems have been established as a safe and effective alternative to fluoroscopy and Chest X-ray to determine PICC tip placement at the cavoatrial junction (CAJ). ECG TCS placement is reliant on observable P wave changes in the patients' intravascular ECG trace. Ceasing CXR in this patient population removes a costly and time consuming component to tip verification.

**Objective:** To compare the real time position of a PICC tip during insertion using ECG TCS in conjunction with Fluoroscopy to ensure the safety of ceasing CXR post placement.

**Method:** Suitable patients requiring a PICC were selected to undergo insertion in the Interventional suite with both fluoroscopy images and an ECG trace stored at predetermined positions. Patient selection included adults with the ability to follow instructions and the presence of a consistent P wave on ECG.

ECG capture and fluoroscopy images were both taken on tip entry to the subclavian vein, the proximal, medial and distal SVC, Right Atrium and final tip position at the CAJ. Images were taken on both inspiration and expiration.

**Result:** At each stage the ECG TCS and fluoroscopy demonstrated agreement in tip position. Changes to the Hospital policy allowed credentialed inserters to release lines for immediate use in patients with observable P wave changes. This reduces time and resources spent on transport and decreases unnecessary X-ray exposure.

**Conclusion:** ECG TCS in patients with observable P wave changes can safely replace CXR in determining PICC tip location, releasing PICC lines for immediate use.