

Vascular Positioning Technology Can Improve Patient Safety and Outcomes

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A hospital using standard procedure for PICC placement and confirmation of tip placement with chest-X ray, was looking to improve accuracy, efficiency, comfort, and improve costs. Incorrect placement risks patient complications; X-rays expose patients to additional radiation, delays to treatment add soft costs (labor for radiologist, technician, and nurses placing/adjusting lines). Finally, chest X-rays do not always provide adequate placement confirmation. Tip location interpretation (via chest X-ray), varies from recommended standards.

Goals of System Redesign

The Spokane VAMC Vascular Access team will maximize efficiency of care by drastically reducing the need for post PICC line insertion X-rays of all PICC line patients by 90%, using the VPS (Vascular Positioning System). VPS will increase accuracy of tip position, improved patient satisfaction, reduce cost, and workload.

Defined Issues

- Post insertion X-ray interpretation of tip location
- Time-1/2 hour to two hours for portable film to be read
- Quality and accuracy of X-Ray
- Time from order to treatment
- Exposure to radiation
- Cost
- Comfort

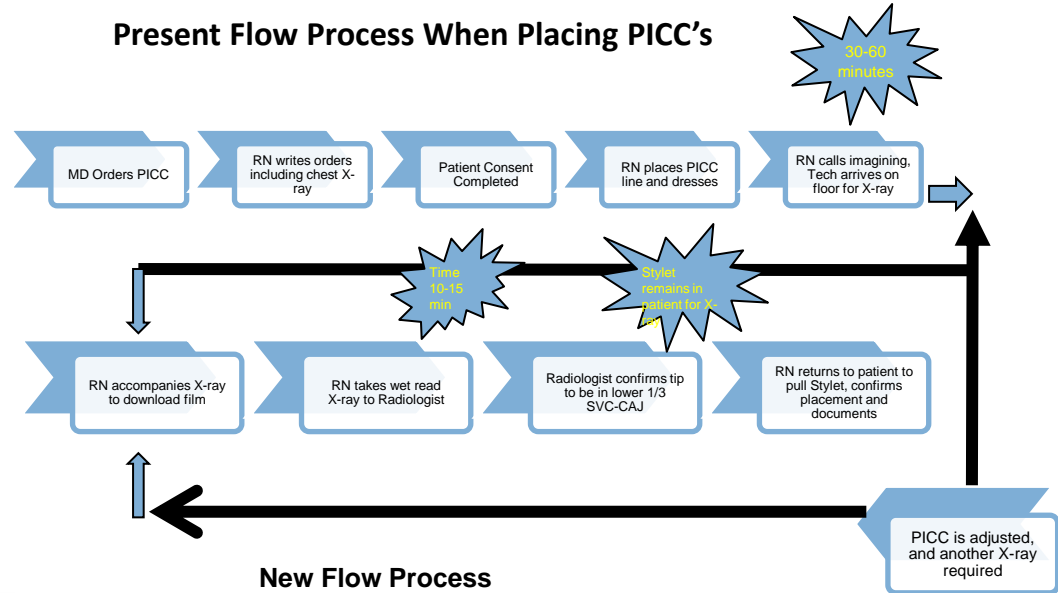


Benefits of using a Vascular Positioning System

- Precise tip location, meets AVA standards
- Cost
- Reduced time to release line
- Comfort
- Less radiation



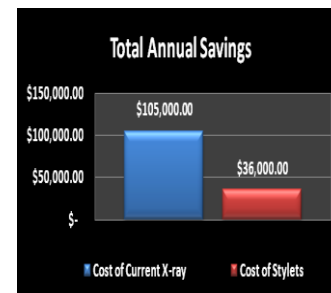
Present Flow Process When Placing PICC's



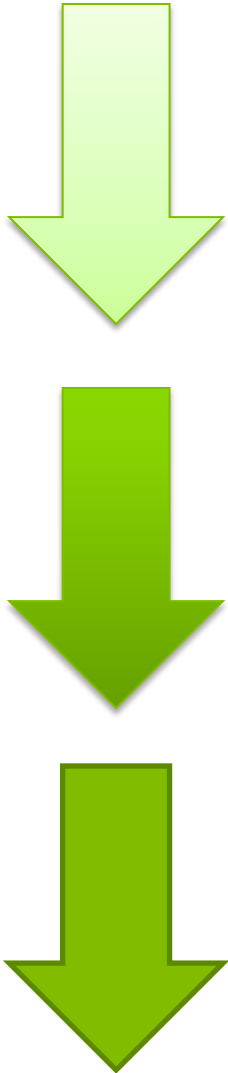
New Flow Process Using A Vascular Positioning System



- Improve patient safety and possible outcomes related to less radiation exposure, and optimal tip position
- Decrease facility cost by elimination of X-ray by approx. \$105,000/year
- Reduce time spent on procedure, increased patient satisfaction
- Reduce workload of radiologist, vascular access specialist, and X-ray technician
- Improve time from PICC order to confirmation of tip and institution of intravenous therapy

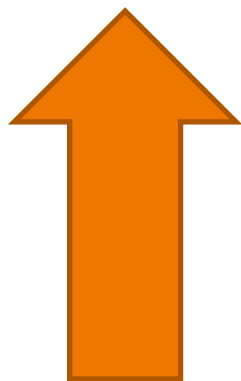
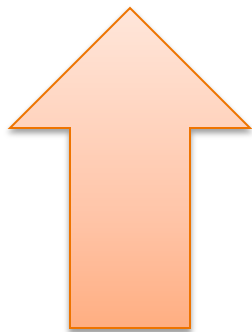


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- Reduced **steps** to place PICC from 9 to 4 (more than 55% improvement)
- Reduced **time** of PICC procedure
- Reduced **cost** from \$105,000 to \$36,000 by elimination of chest X-ray
- Reduced **workload** of Radiology Team
- Reduced patient exposure to **radiation**

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- Improved patient satisfaction
- Improved time to tip confirmation
- Improved time to start patient's therapy
- Improved accuracy of tip placement, in line with AVA standards

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A Blue Bullseye
to Improve Patient Safety
and Outcomes



Data courtesy of Teresa Fisher, RN, BSN, ICU/PCU, AACN, VA-BC

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