Abstract

The purpose of the health care delivery process improvement was to research the latest technology available to improve the success rate of obtaining peripheral IV access on patients with limited venous access.

The decision was made to implement near-infrared technology in order to gain peripheral access on the superficial veins of the upper extremity therefore preserving the deeper veins for future Fistula access if needed.

Objective

To research and implement technology to improve success rates of PIV placement and decrease PICC line placements on patients that do not meet PICC criteria.

To preserve peripheral vasculature on our patient population that may require future fistula placement.

To increase patient satisfaction by reducing number of attempts needed to place PIV.

Methods

Near-infrared vein visualization technology was researched.

- This technology projects a near-infrared light which is absorbed by blood, reflected by surrounding tissues, and projects the image of the vessels on the patients skin.

- Near-infrared technology allows visualization up to approximately 1 cm. depth.

Results/Data

Results:

- PICC line placements in 2012 prior to the implementation of the near-infrared technology were compared to PICC placements post implementation in 2013 and 2014.

- The result was a decrease in PICC placements of 340 in 2013 and 339 in 2014.

Conclusions

The implementation of near-infrared technology has contributed to:

- Improvement in the healthcare delivery process at our institution.

- Increased success in obtaining peripheral IV access on our patients which decreased PICC line placements.

- Increased patient satisfaction, cost savings, and vein preservation.