

Trans-illumination Devices: Improving IV Insertion Accuracy and Success Rates

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Background Information: Difficult Venous Access (DVA) patients are a frequent cause of increased preoperative pain scores, increased delays in Preop to OR times, and decreased patient satisfaction with their perioperative experience. Expert vascular access nurses (EVANs) have had little effect changing these key issues. Use of Trans-Illumination Devices (**TIDs**) has demonstrated promising results in alleviating some of these issues without increased risk to the patient.

Objectives of Project: The **TID** pilot was designed to improve patient safety, comfort and satisfaction while decreasing delays in the preoperative area relating to DVA patients. Staff satisfaction with TIDs data was measured through feedback on ease of use, procedure type, and success rates.

Process of Implementation: Staff education was required for the use of the ACCU VEIN red light LED **TID**. Training included a review of the equipment, proper distancing, settings, and cleaning for patient safety. Real time training was performed on live patients with verbal consent in the Prep and PACU. Data collection included patient Vascular Access Difficulty Level (VADL), number of insertion attempts, and the procedure performed. Post training satisfaction surveys were sent to nursing and clinical technicians to provide feedback on use of the **TID**.

Statement of Successful Practice: The ACCU VEIN **TID** was used on 70 patients. VADL A (55) and VADL B (15). It successfully reduced the number of insertion attempts in the DVA population (1st attempt =62, 2nd attempt= 8). Calls for Anesthesia or EVANs were zero. The device gave real time information regarding the location and quality of veins being accessed. Reduction in number of insertion attempts decreased pain and improved patient satisfaction with IV starts. Staff graded the ACCU Vein ease of use (100%), being helpful (90%), and that they would use the device again (99%).

Implications for Advancing the Practice of Perianesthesia Nursing: Use of **TIDs** in areas where venous access is frequent will improve the quality of patient care and reduce the wait times associated with IV insertion of the DVA patient. Prep/PACUs, Infusion Centers, Emergency Departments, Phlebotomy, and IV therapy would all benefit having **TIDs** as standard equipment.