

## **PAIN EXPERIENCE FOR ADULTS HAVING IV INSERTION WITH AND WITHOUT USE OF NEEDLESS LOCAL ANESTHETIC INJECTION SYSTEM**

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### **BACKGROUND INFORMATION:**

Insertion of peripheral intravenous (IV) catheters is often a source of pain and anxiety for patients. Current practice involves either no pre-medication or an intradermal injection (ID) of saline or lidocaine prior to IV insertion.

Nursing specialty organizations advocate for improved patient experience, including utilization of available options to reduce anxiety / promote comfort during IV insertion. Preoperative anxiety is associated with measurable negative patient outcomes (Ip et al. 2009). Numerous studies compared local anesthetic ID meds, sprays, and creams – with varying results and recommendations. Anderson et al. (2010) results did not support the use of ID anesthetics prior to IV insertion.

Norton Brownsboro Hospital has used an FDA approved needleless device since 2010 to deliver buffered lidocaine prior to IV insertion. No current studies were found that evaluated the needleless system for IV insertion in adults.

### **OBJECTIVES OF PROJECT:**

The study compared the pain experience for adult patients having IV insertion with and without the use of the needleless injection system in a two-group, nonrandomized control study.

### **PROCESS OF IMPLEMENTATION:**

Prior to IV insertion, 50 patients in the preoperative setting received needleless buffered lidocaine and 50 patients in the ED setting received no anesthetic. Patients then rated their pain before, during, and after IV insertion, using a 10 point VAS.

### **STATEMENT OF SUCCESSFUL PRACTICE:**

Pain was significantly lower for patients receiving the needleless injection of buffered lidocaine prior to IV insertion, and remained significant when controlling for pre-insertion pain, catheter size, and distractions.

### **IMPLICATIONS FOR ADVANCING THE PRACTICE OF PERIANESTHESIA NURSING:**

Literature search and study suggests using pain free, evidence based methods to reduce discomfort with IV insertions. Authors suggest further study of patient perception of pain, and patient involvement in decision making prior to IV insertion.