

**The purpose of this study was to compare children's self-reported pain and fear related to IV insertion with administration of either the topical local anesthetic EMLA® or 1% buffered lidocaine delivered with the J-Tip Needleless Injection System® (J-Tip®)" Stoltz and Manworren (2017).**

Abstract:

Purpose: Needle procedures, like venipuncture and intravenous (IV) catheter insertion, are recognized as a common cause of pain and fear for children in hospitals and emergency departments. The purpose of this study was to compare children's self-reported pain and fear related to IV insertion with administration of either the topical local anesthetic EMLA® or 1% buffered lidocaine delivered with the J-Tip Needleless Injection System® (J-Tip®).

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Design and Methods: In this prospective, randomized trial, 150 consecutive pediatric patients 8 to 18 years of age undergoing IV insertion were randomly assigned 1:1 to treatment group. Participants self-reported procedural pain using a Visual Analog Scale, and procedural fear using the Children's Fear Scale.

Results: Procedural pain scores were significantly lower in the EMLA® group (mean score  $1.63 \pm 1.659$ ) vs. the J-Tip® group ( $2.99 \pm 2.586$ ;  $p < 0.001$ ). Post-procedure fear scores were significantly lower than pre-procedure fear scores in both treatment groups ( $p < 0.002$ ), but there was no difference in fear scores between the two treatment groups ( $p = 0.314$ ).

Conclusion: EMLA® provided superior pain relief for IV insertion compared to J-Tip®.

Practice Implications: Although EMLA® use resulted in lower self-reported pain scores compared to J-Tip®, pain scores for both treatments were low and fear scores did not differ.

When IV insertion can be delayed for 60–90 min, EMLA® should be used. When a delay is contraindicated, J-Tip® may be a reasonable alternative to minimize procedural pain of IV insertion.

Reference:

Stoltz, P. and Manworren, R.C.B. (2017) Comparison of Children's Venipuncture Fear and Pain: Randomized Controlled Trial of EMLA® and J-Tip Needleless Injection System®. *Journal of Pediatric Nursing*. August 18th. .

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