

**J-Tips are a needle-free injection system that use pressurized gas to inject lidocaine in a fine stream of fluid that penetrates the skin. This study undertook an evaluation of their effectiveness at decreasing the pain of the needle poke that takes place with IV insertion” Kelly et al (2017).**

Abstract:

BACKGROUND: “Needle pokes” are the most frequent cause of pain encountered by pediatric patients in the hospital setting. Poor control of pain during needle pokes leads to short- and long-term adverse outcomes for both patients and hospitals. J-Tips are a needle-free injection system that use pressurized gas to inject lidocaine in a fine stream of fluid that penetrates the skin. This study undertook an evaluation of their effectiveness at decreasing the pain of the needle poke that takes place with IV insertion.

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METHODS: Participation was limited to patients between the ages of 3 and 16 who received an IV during a 3-week period at an academic pediatric hospital. Furthermore, patients requiring more than one attempt to place the IV were not included. Participants were recruited within 24 hours after having received their IV. The 10-point, Wong-Baker Faces Pain Rating Scale was the tool used to collect pain scores. Patients were recruited to the study by convenience sampling.

RESULTS: Pain scores were collected from 85 patients. There were 41 patients who received needle-free injected lidocaine prior to IV insertion. There were 44 patients who received an IV without previous lidocaine injection. Mean pain scores for the two groups were 2.45 for the patients who received the needle-free injected lidocaine and 5.8 for the patients who did not (p value <0.001).

CONCLUSIONS: Results were consistent with the hypothesis that needle-free injection of

lidocaine is an effective therapy for the management of pain in children between the ages of 3-16 years who receive an IV.

Reference:

Kelly, S., Russell, J., Devgon, P. and Rosen, P. (2017) Transformation of the peripheral intravenous catheter placement experience in pediatrics. *The Journal of Vascular Access*. March 21st. .

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