



The purpose of this study was to investigate whether the use of a topical anesthetic spray (vapocoolant) at the site of intravenous access reduces pain and anxiety associated with peripheral intravenous (PIV) catheter insertion in an adult emergency department population” Edwards and Noah (2017).

Abstract:

The purpose of this study was to investigate whether the use of a topical anesthetic spray (vapocoolant) at the site of intravenous access reduces pain and anxiety associated with peripheral intravenous (PIV) catheter insertion in an adult emergency department population. A randomized, double-blind, placebo-controlled, single-center trial, conducted from July to August, in an adult emergency department where 72 patients with orders for PIV insertion receiving either topical vapocoolant spray (n = 38) or placebo spray (n = 34). Vapocoolant or placebo was applied to the intravenous site and allowed to evaporate before cleansing and insertion. The primary outcome was patient perception of pain and anxiety with PIV needle insertion using a 0-10 Likert scale. Secondary outcomes included patient/staff preference or desire for vapocoolant/placebo use in future procedures and staff perception of patient pain and anxiety. Patient groups did not vary significantly in the history of intravenous access, nor anxiety preprocedure, and the sprays did not affect ability to obtain intravenous access. Patient perception of pain did not vary significantly between vapocoolant (2) and placebo populations (2.5), nor did the scores vary significantly for patient-forecasted anxiety in future



procedures using the same methods (0.5 for vapocoolant, 0 for placebo; $p > 0.05$). Eighty-nine percent of nurses and patients would use vapocoolant in future procedures, whereas 74% would use placebo; the difference was not significant ($p > 0.05$). No skin blanching or lesions were noted. Among adult patients in the Parkland Emergency Department receiving PIV access, no significant differences in pain relief or alleviation of anxiety were found between treatment using a topical anesthetic spray or placebo.

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Reference:

Edwards, C. and Noah, C. (2017) A Randomized, Double-Blind Trial to Determine if Vapocoolant in the Adult Population Improves Patient Perception of Pain With Peripheral Intravascular Access. *Advanced Emergency Nursing Journal*. 39(4), p.288-294.

doi: 10.1097/TME.000000000000165.

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