

Use of EMLA Cream in Pediatric Patients Under the Age of 12

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PICOT Clinical Question:

In pediatric patients under the age of 12, does the use of EMLA cream before venipuncture, decrease the success rate of venipuncture, when compared to not using EMLA cream.

Aim of EBP Project:

Assess the success rate of peripheral IV insertion in pediatric patients under the age of 12 with the use of EMLA cream in comparison to the success rate without, as well as to educate registered nurses on the benefits of EMLA cream opposed to the potential side effects of vasoconstriction.

Methods:

*Survey of registered nurse's knowledge and opinions regarding EMLA cream in the Emergency Department and Grant 8 Pediatrics at EMMC.

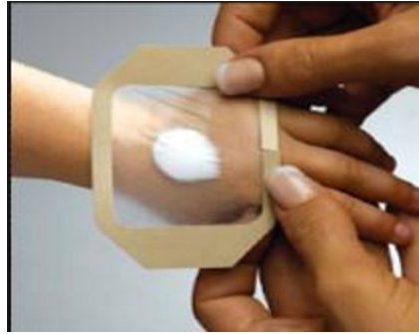
*Data collection sheet posted in Emergency Department and Grant 8 Pediatric unit for a two week total of venipuncture success rates in both units.

*Gather information from survey and data sheets, compile into group presentation.

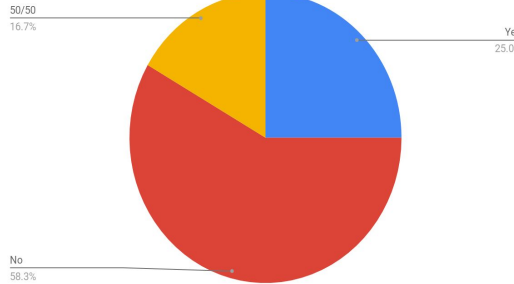
*Present info and results registered nurses employed at EMMC

Results:

The results of the study showed that 58.3% of nurses do not regularly use EMLA cream for pediatric IV insertions, whereas 25% say they do everytime and 16.7% are 50/50. Out of the percentage that said no, 57.1% said they did not use it due to vasoconstriction, 28.5% because it causes a delay in care, and 14.4% did not give a specific reason. In the results gathered for success rate of peripheral IV insertion 66.7% of registered nurse that used EMLA cream were successful in placing peripheral IV, whereas 33.3% who used were unsuccessful. No nurses in this study were unsuccessful when not using EMLA cream.



Results



Limitations:

This study was limited by the number of IV starts that were able to be used in the data compiled. This was due to a small population of patients that met the criteria for this study and a short amount of time in which to collect data. Limited awareness of and participation in this project among staff also limited data collection. Additionally, other factors besides the use of EMLA cream may have influenced success of venipuncture. These include: anatomical differences of vascular structure, dehydration, and lack of cooperation from pediatric patients.

Background:

The use of EMLA cream can be an effective way to reduce pain on peripheral intravenous insertions of pediatric patient under the age of 12 and has become a part of standard practice today. However, Some research shows that in order for EMLA cream to fully take effect, it should be left on the skin for approximately 60 minutes, therefore increasing the chances for vasoconstriction and decreasing the chance of a successful venipuncture (Kleiber, Sorenson, Whiteside, Gronstal & Tannous, 2002). However, in 2012 a study of 388 children, revealed that the use of EMLA cream did not interfere with the success rate of venipuncture (Schreiber, et al., 2012).

Next Steps/Implications:

The results of this study are ultimately unreliable due to the small population of pediatric patients on which results could be obtained. Moving forward, results should continue to be obtained for the significance of use or disuse of the numbing agent. It must be stated that the use of numbing agents can minimize the stress and anxiety of venipuncture for pediatric patients and may be worth using simply for this purpose. The reaction of patients to the sight of needles implies severe stress in and of itself, but if pain can be minimized the reaction may be lessened in future visits. Due to our finding that no nurses were unsuccessful when not using EMLA cream, the claim that numbing agents can cause vasoconstriction may indeed be correct, however, this may have also been due to the enlistment of more experienced nurses when starting IVs in pediatric patients. More information compiled over time will help in determining the relevance of EMLA cream in the success and failure of venipuncture in the pediatric patient.