



Intravenous literature: Kim, M.J., Park, J.M., Rhee, N., Je, S.M., Hong, S.H., Lee, Y.M., Chung, S.P. and Kim, S.H. (2012) Efficacy of VeinViewer in pediatric peripheral intravenous access: a randomized controlled trial. *European Journal of Pediatrics*. Mar 14. .

Abstract:

Peripheral venous access in infants and children is technically challenging, because their veins are small and located deep in subcutaneous tissue, which makes them difficult to palpate or visualize. The VeinViewer® (Luminetx Corporation, Memphis, TN, USA) is a near-infrared light device that delineates the running course of subcutaneous veins. In this study, we investigated whether the use of the VeinViewer® in infants and children facilitated peripheral venous access, especially in difficult cases. This study was a randomized, controlled trial of a convenience sample of pediatric patients between the ages of 1 month and 16 years who required peripheral venous access in the pediatric ward. Prior to randomization, difficult intravenous access (DIVA) score, a four-variable clinical prediction rule for first-attempt success, was estimated. We compared the first-attempt success rates and procedural times between the VeinViewer® group and a control group. We evaluated 111 patients: 54 in the VeinViewer® group and 57 in the control group. Patient demographics and factors related to the success of vein access were similar for both groups. The overall first-attempt success rate was 69.4%: i.e., 77/111 in the VeinViewer® group and 38/57 in the control group, a difference that was not statistically significant. However, the first-attempt success rate increased from 5/20 in the control group to 14/24 in the

VeinViewer® group for difficult veins with a DIVA score greater than 4 . There were no significant differences in procedural time between the two groups. Conclusion: The VeinViewer® facilitated peripheral venous access for pediatric patients with difficult veins, which enhanced first-attempt success rates.

