The aim of this study was to examine the success rates, longevity, and complications of ultrasound-guided peripheral intravenous lines (USgPIVs) placed in a pediatric emergency department” Vinograd et al (2017).

Abstract:
OBJECTIVE: The aim of this study was to examine the success rates, longevity, and complications of ultrasound-guided peripheral intravenous lines (USgPIVs) placed in a pediatric emergency department.
METHODS: The study analyzed 300 USgPIV attempts in an urban tertiary-care pediatric emergency department. Data regarding USgPIV placement were collected from a 1-page form completed by the clinician placing the USgPIV. The time and reason for USgPIV removal were extracted from the medical record for patients with USgPIVs admitted to the hospital. A Kaplan-Meier survival analysis was performed.

RESULTS: This study demonstrated a success rate of 68% and 87% for the first and second attempts with USgPIV. Fifty-five percent of patients had 1 or more prior traditional intravenous access attempt. Most USgPIVs placed on patients admitted to the hospital were removed because they were no longer needed (101/160). We calculated a Kaplan-Meier median survival of 143 hours (6 days; interquartile range, 68-246 hours). The failure rate at 48 hours was 25%.

CONCLUSION: Ultrasound-guided intravenous access is a feasible alternative to traditional peripheral intravenous access in the pediatric emergency setting. We observed a high first-stick success rate even in patients who had failed traditional peripheral intravenous access attempts, few complications, and a long intravenous survival time.

Reference:
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