Objectives

To describe the prevalence and success rate of US guided PIV placement by pediatric vascular access team nurses overall and in different pediatric age categories.

Methods

Retrospective analysis of PIV placement data by vascular access team over a 1.5 month period

Data examined: age, gender, number of attempts, success, and modality used to aid PIV placement

Data were examined for all PIV attempts and stratified by attempt number, type of modality, and pediatric age category

Descriptive statistics and chi-square tests used for analysis

Results

1083 patient-nurse encounters (1470 attempts)

- 49% female
- Mean: 6 years (0-23 years)

86.7% successful IV placements

- 75.5% placed on 1st attempt
- 19.6% placed on 2nd attempt
- 4.9% placed on 3rd attempt

US used 117 times overall

- 60.7% successful

Results

Figure 1 Prevalence of modalities

Figure 2 Success rate by modality

Figure 3 Success rate of all PIV attempts per attempt number

Table 1 Success rate within each age group and modality

*21 attempts with undocumented age

Conclusions

- Vascular access team nurses use US infrequently for PIV placement, especially in younger children
- US had higher success rate than Near-Infrared Light, the second most utilized method
- Methods to increase US use and success rate for PIV placement in pediatric patients should be explored.

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