

Abstract:

Background: Various criteria exist for defining difficult peripheral intravenous (DPIV) cannulation in infants and children. With the help of a survey tool, the characteristics perceived to increase the likelihood of DPIV cannulation amongst anesthesia providers were assessed.

Methods: An individualized survey regarding DPIV which included pediatric anesthesiology faculty and certified registered nurse anesthetists at Nationwide Children's Hospital and anesthesiology faculty members of Wake-up Safe was conducted. Anesthesia provider, patient, and procedural characteristics were expressed as a count and percentage, and compared according to group (faculty, certified registered nurse anesthetists, Wake-up Safe faculty) using analysis of variance.

Results: Of the 48 local respondents, 33 (69%) reported age as a contributing factor to DPIV, and 32 (67%) reported weight as a factor. Of the 22 Wake-up Safe respondents, 14 (63%) reported age, and 16 (73%) reported weight as a factor. Patient and procedural characteristics perceived to increase likelihood of DPIV cannulation did not differ by respondent role. The factors most commonly mentioned by local respondents as contributing to DPIV included trisomy 21, neuromuscular disorders, and history of many prior IV cannulations. Among the Wake-up Safe faculty respondents, the most commonly mentioned factors were neuromuscular disorders, trisomy 21, and skin injuries or conditions.

Conclusion: Age and weight were the two most commonly reported factors from both groups of respondents. Other factors contributing to DPIV included prior history of DPIV, neuromuscular disorders, trisomy 21 and American Society of Anesthesiology status ≥ 4 . Patient and procedural characteristics were perceived to increase the likelihood of DPIV cannulation with no difference among respondents.

Reference:

Hakim M, Shafy SZ, Uffman JC, et al. A Survey to Define and Predict Difficult Vascular Access in the Pediatric Perioperative Population. *Pediatric Health Med Ther.* 2020;11:277-282. Published 2020 Aug 11. doi:10.2147/PHMT.S260639

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