Abstract:

BACKGROUND: The aim of our study was to describe the anatomic relationships in internal jugular (IJV), subclavian (SCV), and femoral (FV) vein sites.

METHODS: One hundred and forty-two children had a two-dimensional (2D) ultrasound (US) evaluation of IJV, SCV, and FV sites. They were enrolled according to their age: 0-1 month old (n=9), 1 month old to 2 yr old (n=61), 2-6 yr old (n=22), 6-12 yr old (n=32), and 12-18 yr old (n=18).

RESULTS: We found about 7.7% variation for the IJV. The most common anatomic variations were a lateral (nine children) or anterior (nine children) position of the IJV to the carotid artery. Regardless of the age category, about 9.8% of the anatomic variations were found for the FV. The most common anatomic variation in our study was that the FV ran anteromedially to the femoral artery (17 children). Anatomic variation of the SCV, regardless of age category, was about 7.4%. The most common anatomic variation was the SCV, which ran medially (10 children) to the subclavian artery.

CONCLUSIONS: The relevant percentages of anatomic variations obtained for all these areas...
support at least a systematic US screening before attempting to obtain central venous access, ideally using a US-guided technique.

Other intravenous and vascular access resources that may be of interest (External links – IVTEAM has no responsibility for content).

Ultrasonographic anatomic variations of the major veins in paediatric patients