

**As an alternative, medications and fluids can be administered via the intraosseous (IO) route, which is a well-tolerated and established alternative, especially in the emergency setting” Szarpak et al (2018).**

Abstract:

**BACKGROUND:** Obtaining intravascular access can be challenging or even impossible in several clinical situations. As an alternative, medications and fluids can be administered via the intraosseous (IO) route, which is a well-tolerated and established alternative, especially in the emergency setting.

**METHODS:** Seventy-five novice physicians participated in this randomized simulation study. After a single educational session and 6 months without any clinical application, participants were asked to identify the correct puncture site and obtain IO access using 3 widely used mechanical devices (BIG Pediatric, Arrow EZ-IO, NIO Pediatric) and a manual device (Jamshidi needle) on a pediatric manikin and turkey bone, respectively.

**RESULTS:** Sixty-eight participants correctly identified the puncture site and performed IO cannulations. First placement attempt success rate was similar with mechanical devices (NIO Pediatric, 100%; Arrow EZ-IO, 97%; and BIG Pediatric, 90%), whereas was only 43% using the manual Jamshidi device. Also, procedure time was much faster using mechanical devices (ranging between 18 and 23 seconds) compared with the manual Jamshidi device (34 seconds).

**CONCLUSIONS:** Although the efficacy of devices was demonstrated in simulated environment in novice users, further studies are needed to assess the efficacy and safety of devices in clinical comparative settings. With more experienced users, the success rate may differ considerably as compared with naive users.

Reference:

Szarpak, L., Ladny, J.R., Dabrowski, M., Ladny, M., Smereka, J., Ahuja, S. and Ruetzler, K. (2018) Comparison of 4 Pediatric Intraosseous Access Devices: A Randomized Simulation

Study. Pediatric Emergency Care. August 13th. .

doi: 10.1097/PEC.0000000000001587.