



The objective here was to summarize the evidence from Cochrane systematic reviews (SRs) on the effects of ultrasound-guided vascular access as an intervention approach” Attie et al (2019).

Abstract:

BACKGROUND: Ultrasonography is currently used in investigating many vascular diseases, especially for guiding vascular access.

OBJECTIVE: The objective here was to summarize the evidence from Cochrane systematic reviews (SRs) on the effects of ultrasound-guided vascular access as an intervention approach.

DESIGN AND SETTING: Review of SRs, conducted in the Division of Vascular and Endovascular Surgery of Universidade Federal de São Paulo.

METHODS: A broad search was conducted in the Cochrane Database of Systematic Reviews to retrieve any Cochrane SRs that assessed the effects of ultrasound guidance as a therapeutic approach towards performing any vascular access. The key characteristics and results of all the reviews included were summarized and discussed.

RESULTS: Three SRs on venous access at all ages and one review on arterial access in pediatric participants were included. There was low to moderate certainty of evidence that

ultrasound increased the success rate from the first puncture and the overall success rate of the procedure; and reduced the total rate of perioperative and postoperative adverse events, number of punctures, time needed to achieve success and rate of failure to place catheters.

CONCLUSION: Evidence of low to moderate quality showed that ultrasound-guided vascular access seems to reduce the total rate of perioperative and postoperative complications/adverse effects, number of punctures, time needed to achieve success and rate of failure to perform venous catheterization in adults and arterial punctures in children. There is a lack of information regarding ultrasound-guided arterial puncture in adults. Further studies are still imperative for reaching solid conclusions, especially regarding arterial ultrasound-guided access.

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Reference:

Attie, G.A., Flumignan, C.D.Q., Silva, M.A.M., Barros, E.M., Daolio, R.M., Guedes Neto, H.J., Baptista-Silva, J.C.C., Amorim, J.E., Nakano, L.C.U. and Flumignan, R.L.G. (2019) What do Cochrane systematic reviews say about ultrasound-guided vascular access? São Paulo Medical Journal. 137(3), p.284-291. doi: 10.1590/1516-3180.2019.0113070519.

