



We wanted to compare the use of a sternal and tibial/humeral intraosseous device in a physician-staffed helicopter emergency medical service” Sørgerd et al (2019).

Abstract:

**BACKGROUND:** Intravenous access in critically ill and injured patients can be difficult or impossible in the field. Intraosseous access is a well-established alternative to achieve access to a noncollapsible vascular network. We wanted to compare the use of a sternal and tibial/humeral intraosseous device in a physician-staffed helicopter emergency medical service.

**METHODS:** The helicopter emergency medical service in Bergen, Norway, is equipped with two different intraosseous devices, the EZ-IO and FAST-Responder. We compared insertion time, insertion sites, flow, indication for intraosseous access, and complications between the tibial/humeral and sternal techniques.

**RESULTS:** In 49 patients, 53 intraosseous insertions were made. The overall intraosseous rate was 1.5% (53 insertions in 3600 patients treated). The main patient categories were cardiac arrest and trauma. Overall, 93.9% of the insertions were successful on the first attempt. The median insertion time using EZ-IO was 15 s compared to 20 s using FAST-Responder. Insertion complications registered using the EZ-IO included extravasation, aspiration failure and insertion time > 30 s. Using FAST-Responder, there were reported complications such as

user failure (12.5%) and insertion time > 30 s (12.5%). Regarding the flow, we found that 35.1% of the EZ-IO insertions experienced poor flow and needed a pressure bag. With FAST-Responder, the flow was reported as very good or good in 85.7%, and no insertions had poor flow.

**CONCLUSION:** Intraosseous access seems to be a reliable rescue technique in our helicopter emergency medical service, with high insertion success rates. EZ-IO was a more rapid method in gaining vascular access compared to FAST-Responder. However, FAST-Responder may be a better method when high-flow infusion is needed. Few complications were registered with both techniques in our service.

## You may also be interested in...

[Intraosseous access device comparison of efficacy](#)

[Intraarticular extravasation following intraosseous needle intravenous access](#)

[Emergency department nurses role in establishing intraosseous access](#)

### Full Text

Reference:

Sørgjerd, R., Sunde, G.A. and Heltne, J.K. (2019) Comparison of two different intraosseous access methods in a physician-staffed helicopter emergency medical service - a quality assurance study. *Scandinavian Journal of Trauma, Resuscitation and Emergency Medicine*. 27(1), p.15.

doi: 10.1186/s13049-019-0594-6.

