This report describes a needle-guided ultrasound technique for axillary arterial line placement in critically ill patients” Htet et al (2017).

Abstract:

PURPOSE: Axillary arterial cannulation for blood pressure monitoring has been reported in adults since 1973. Reported failure rates using palpation landmarks are high. This report describes a needle-guided ultrasound technique for axillary arterial line placement in critically ill patients.

METHODS: A retrospective review of all patients requiring axillary arterial cannulation attempts with ultrasound-assisted needle guidance for hemodynamic monitoring was performed from July 2010 to June 2016 at a single institution.

RESULTS: One hundred fifty nine (159) cannulation attempts were performed in 155 patients. The overall success rate was 97%, with a first pass success rate of 84%. Inexperienced operators performed 49% of procedures under direct faculty supervision, and had a 99% success rate, which was not different from experienced operators. Almost 20% of patients...
had moderate-to-severe coagulopathy (platelets<50k/uL, INR>2.0 or PTT>60s). Complications reported included the following: nonfunctioning of catheter (6%) and hematoma (6%). Ischemia was noted in 2 patients (1%), but only one was attributed to the arterial catheter.

CONCLUSIONS: Use of the needle-guided ultrasound assisted approach for axillary arterial line placement is easily teachable and can be used to promote safe and successful placement of axillary arterial lines for novice learners.

Reference: