Background and Aims The objective of the study was to compare ultrasound-guided supraclavicular and axillary plexus blocks for upper extremity surgery of the elbow, forearm, wrist, and hand.

Methods Randomized controlled trial. Sample size was 80 patients randomized into two groups. ASA 1 & 2 Patients for surgery of elbow, forearm, wrist and hand were included. Lack of consent, pregnancy, infection at the site of injection, allergy to LA and coagulopathy were exclusion criteria. Study was conducted after IRB and ethical committee approval. Written & informed consent was taken. Patients were divided into 2 groups Supraclavicular and Axillary group. 30 ml 0.5% Bupivicane was the local anaesthetic used.

Results There was no difference between the 2 groups in terms of success rate (95–97%), block-related pain scores, vascular puncture, and paresthesia. Compared with the supraclavicular approach axillary block required a higher number of needle passes (6.4 vs 2.1) with a P value of 0.003, longer needling time (7.2 mins vs 4.1 mins) with a P value of 0.012, longer performance time (7.9 mins vs 5.0 mins) with a P value of 0.009 and longer total anaesthesia-related time (26.0 mins vs 23.1 mins) with a P value of 0.03. Supraclavicular blocks resulted in a higher rate of Horner syndrome (37.5% vs 0% P value of 0.001).

Conclusions Ultrasound guidance results in similar success rates, block-related pain scores, incidences of paresthesia and vascular puncture for the SCB and AXB. Total performance time and total anaesthesia related time was significantly less for SCB group when compared to AXB group.