
Summary:

In-plane vs out-of-plane needle-probe alignment for perineural catheter placement remains controversial. Patients presenting for major knee surgery were randomly assigned to out-of-plane (n = 42) or in-plane (n = 39) needle-probe alignment for femoral nerve catheter placement, with both techniques using short-axis nerve imaging. Twenty millilitres of ropivacaine 0.5% was administered via the catheter followed by a ropivacaine elastomeric infusion incorporating on-demand boluses. All patients received pre-operative single-injection sciatic and obturator blocks and general anaesthesia. The primary outcome, numerically rated worst pain on movement (0–10) during the first 24 h, demonstrated equivalence within two points of the scale at a 5% significance level using two one-sided tests (corresponding 90% CI ?1.2 to 0.6). There were no differences between groups for all secondary outcomes, including numerically rated worst rest pain, ropivacaine bolus and tramadol consumption. These results suggest that for ultrasound-guided femoral catheter placement using short-axis nerve imaging, operators should use the needle-probe alignment technique with which they are most familiar.
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