

Successful use of regional anesthesia as the main anesthetic in high-risk geriatric hip pinning surgery

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HISTORY OF PRESENT ILLNESS

82-year-old female (51.7 kg) with history of CAD, HF (LVEF 35%), HLD, AFib on apixaban, diabetes, moderate pulmonary hypertension with right sided HF, chronic pericardial effusion, dementia and nonverbal at baseline presented with a right femur fracture after an unwitnessed fall at home. Patient initially admitted to OSH prior to transfer to Bellevue Hospital for evaluation of pericardial effusion and AFib with RVR requiring IV metoprolol prior to surgery.

HOSPITAL COURSE

- Cardiology Evaluation**
- Admitted to Bellevue CCU
 - Loaded with IV digoxin and started on PO loading dose → HR improved to 80-90s
 - Repeat TTE: LVEF 55%, large pericardial effusion without chamber collapse, unchanged from prior
 - Per OSH cardiology note: “Patient at elevated risk despite RCRI score of 1 for CHF due to severe right heart dysfunction with TAPSE of 0.7. Her RV could collapse during intubation/induction and caution should be taken”
 - Cleared for OR by cardiology
 - Plan for cephalomedullary nailing of right intertrochanteric hip fracture

- Anesthetic Plan**
- Due to the patient's severe comorbidities, the decision to proceed with regional anesthesia as the primary anesthetic was made
 - PENG block (deep block) avoided due to anticoagulation use
 - Peripheral nerve blocks performed:
 - Supra-inguinal fascia iliaca (SIFI)
 - Femoral
 - Lateral femoral cutaneous nerve (LFCN)

REFERENCES

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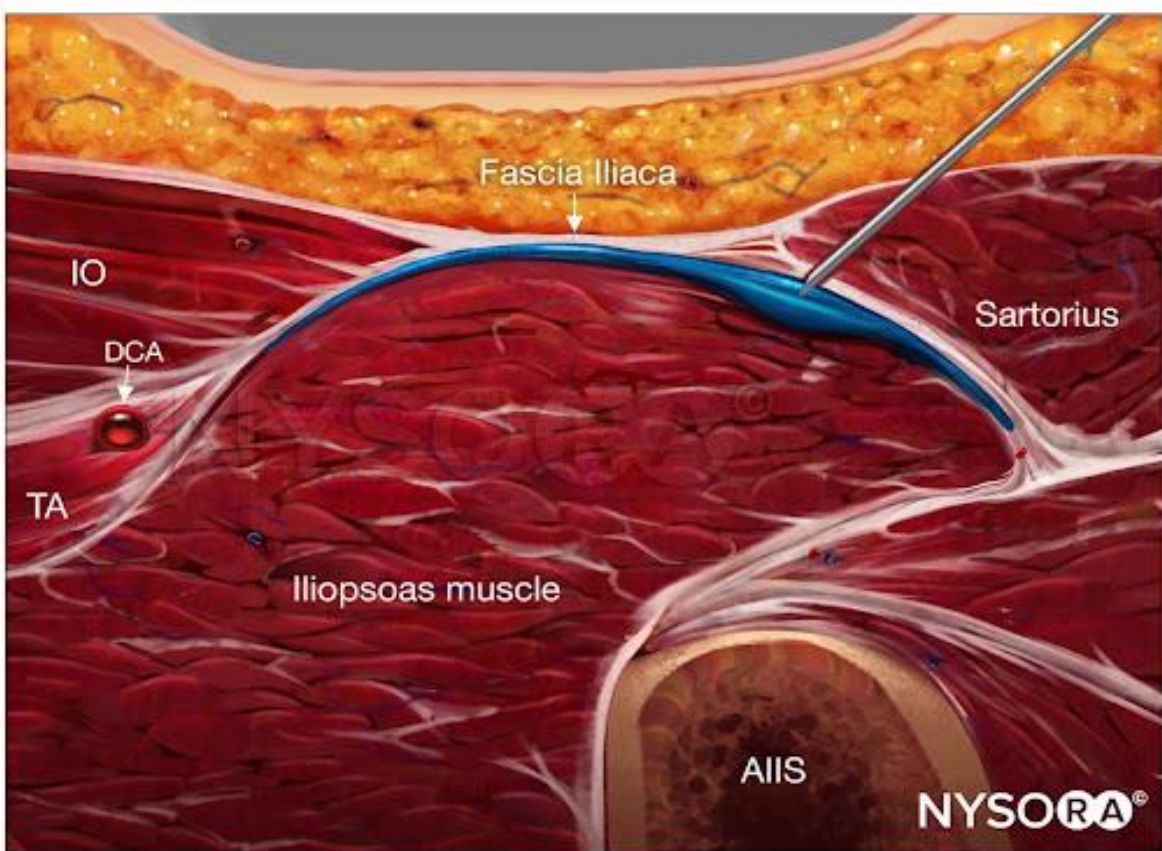
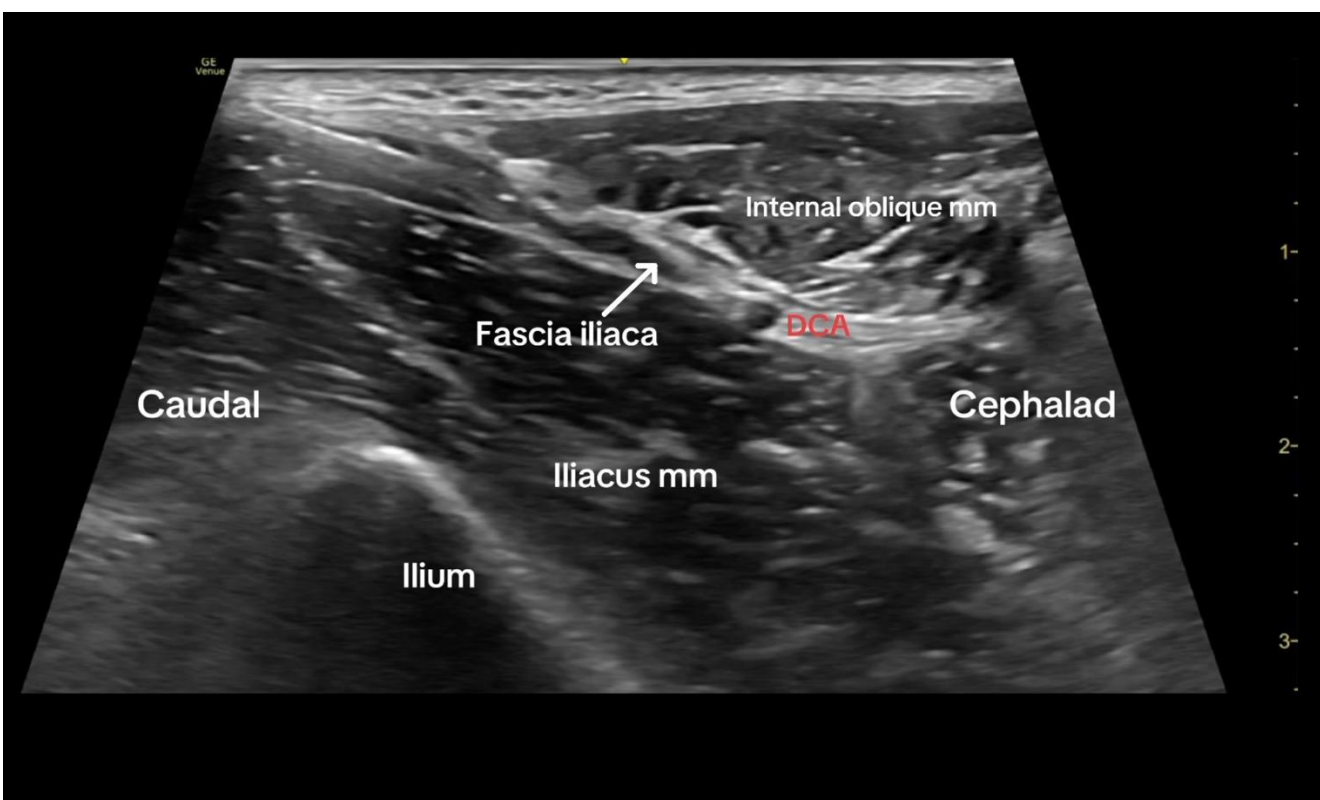
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Operator. "Ultrasound-Guided Femoral Nerve Block." *NYSORA*, 8 Feb. 2024, www.nysora.com/techniques/lower-extremity/ultrasound-guided-femoral-nerve-block/.

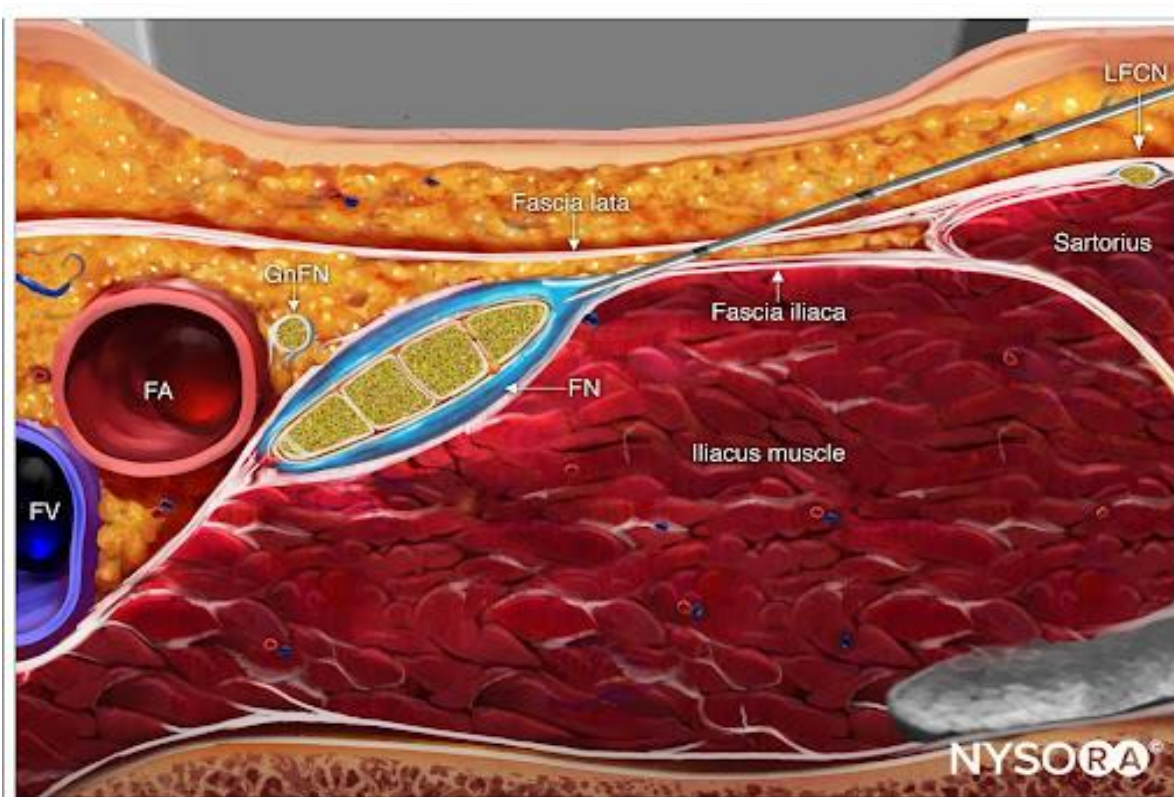
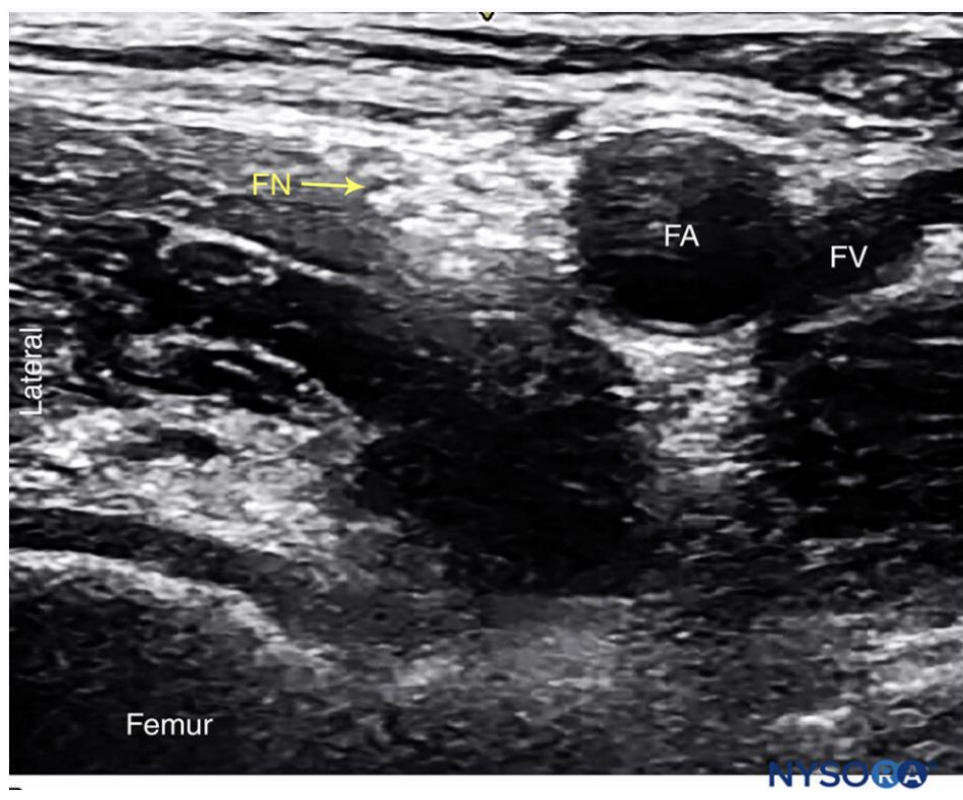
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ULTRASOUND-GUIDED TECHNIQUE

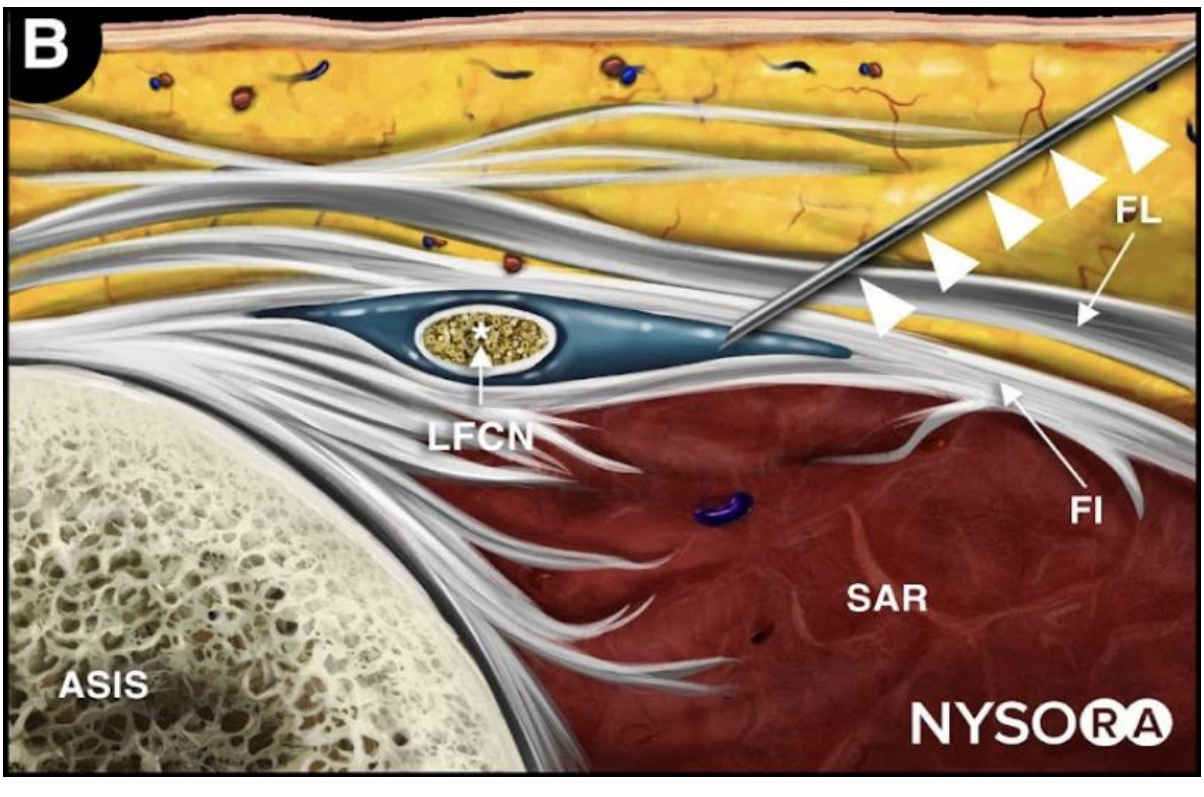
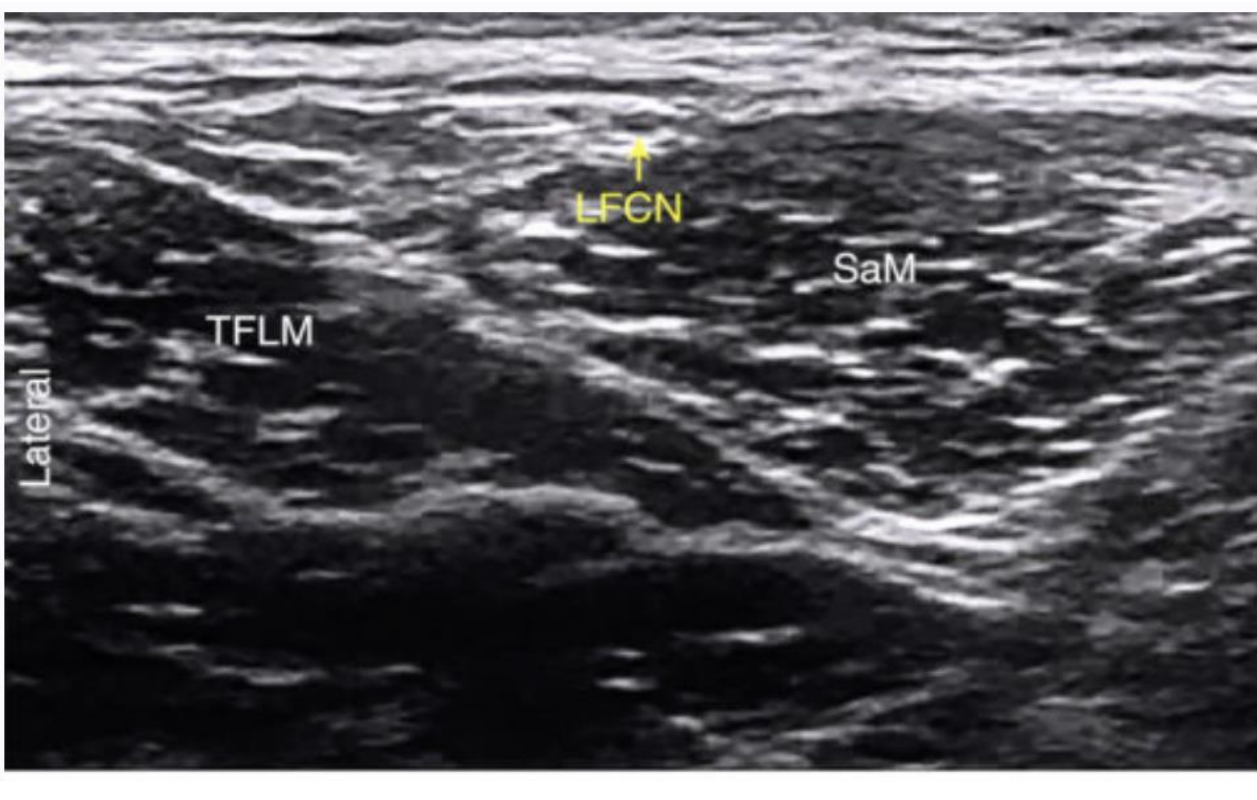
Supra-inguinal Fascia Iliaca



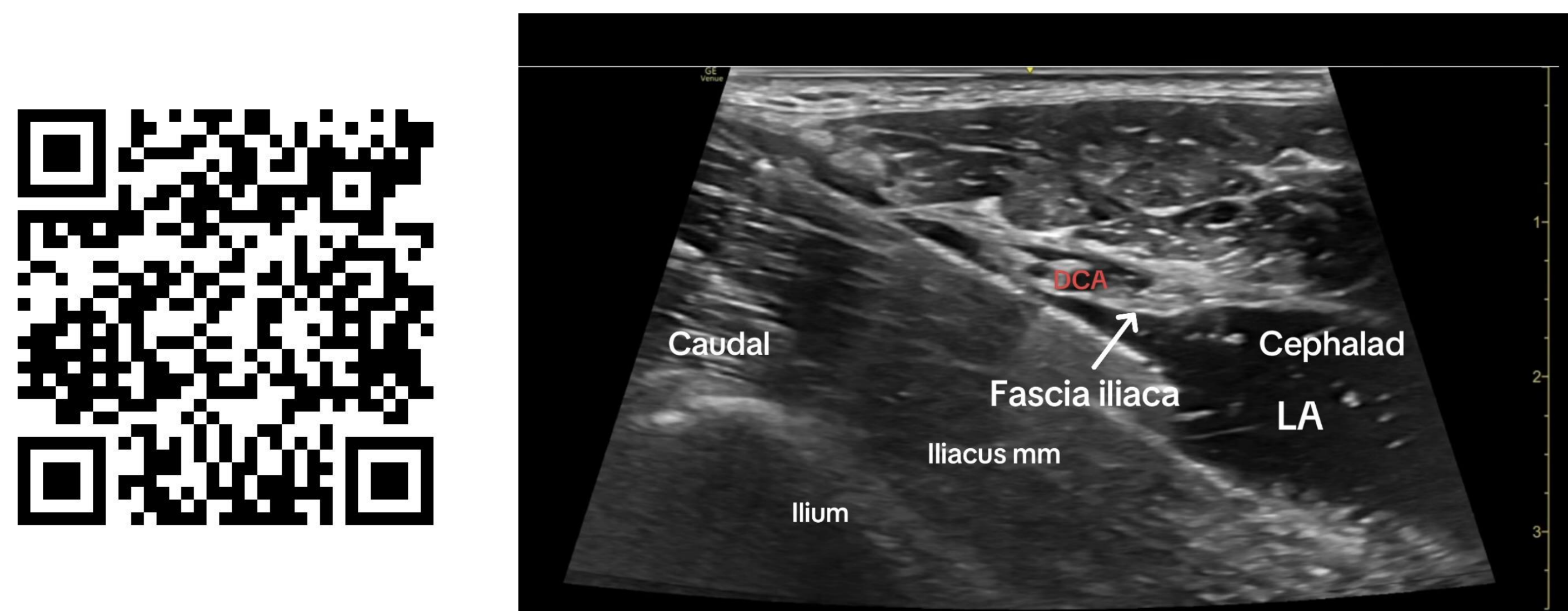
Femoral Nerve Block



LFCN



BLOCKS PERFORMED

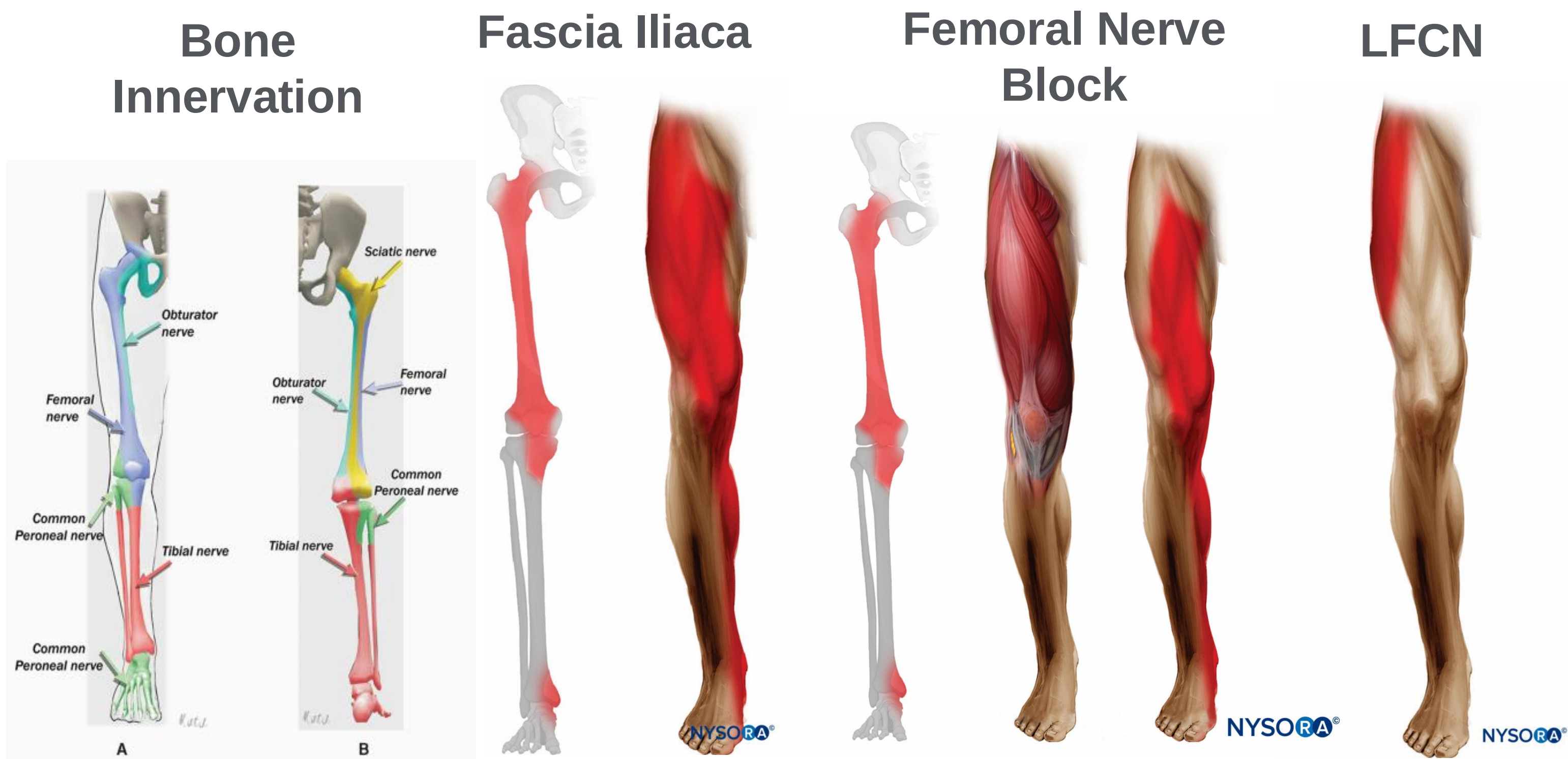


SIFI: 40 cc
ropivacaine 0.125%

Femoral: 5 cc
ropivacaine 0.5% &
5 cc lidocaine 1.5%

LFCN: 5 cc
ropivacaine 0.5% &
5 cc lidocaine 1.5%

BONE INNERVATION & DISTRIBUTION OF ANESTHESIA



DISCUSSION

This case highlights the avoidance of general anesthesia and successful use of regional anesthesia with moderate sedation for right hip pinning surgery, in a high-risk patient. A combination of femoral, LFCN, and SIFI blocks were used to provide anesthesia to the patient's right lower extremity, while MAC with propofol (20mcg/kg/min) and dexmedetomidine (0.2mcg/kg/hr) provided sedation. Sedation was used due to the patient's position on the surgical table and to cover the small area in the posterior aspect of the femoral head, neck and trochanter which is innervated by the sciatic nerve. The sciatic nerve may be partially or fully covered with the SIFI block if there is enough distribution of local anesthetic to the lumbosacral plexus.

The SIFI block was chosen to due its obturator nerve and lumbosacral plexus coverage and distribution of local anesthetic in the cephalad direction due to the high volume, low concentration used. Specifically, the articular branches of the hip arise above the inguinal ligament.

Additionally, the SIFI block was preferred over the PENG block, which is a deeper block, because the patient was on apixaban for Afib. Femoral nerve and LFCN blocks were used as adjuvants to ensure bony and cutaneous coverage.