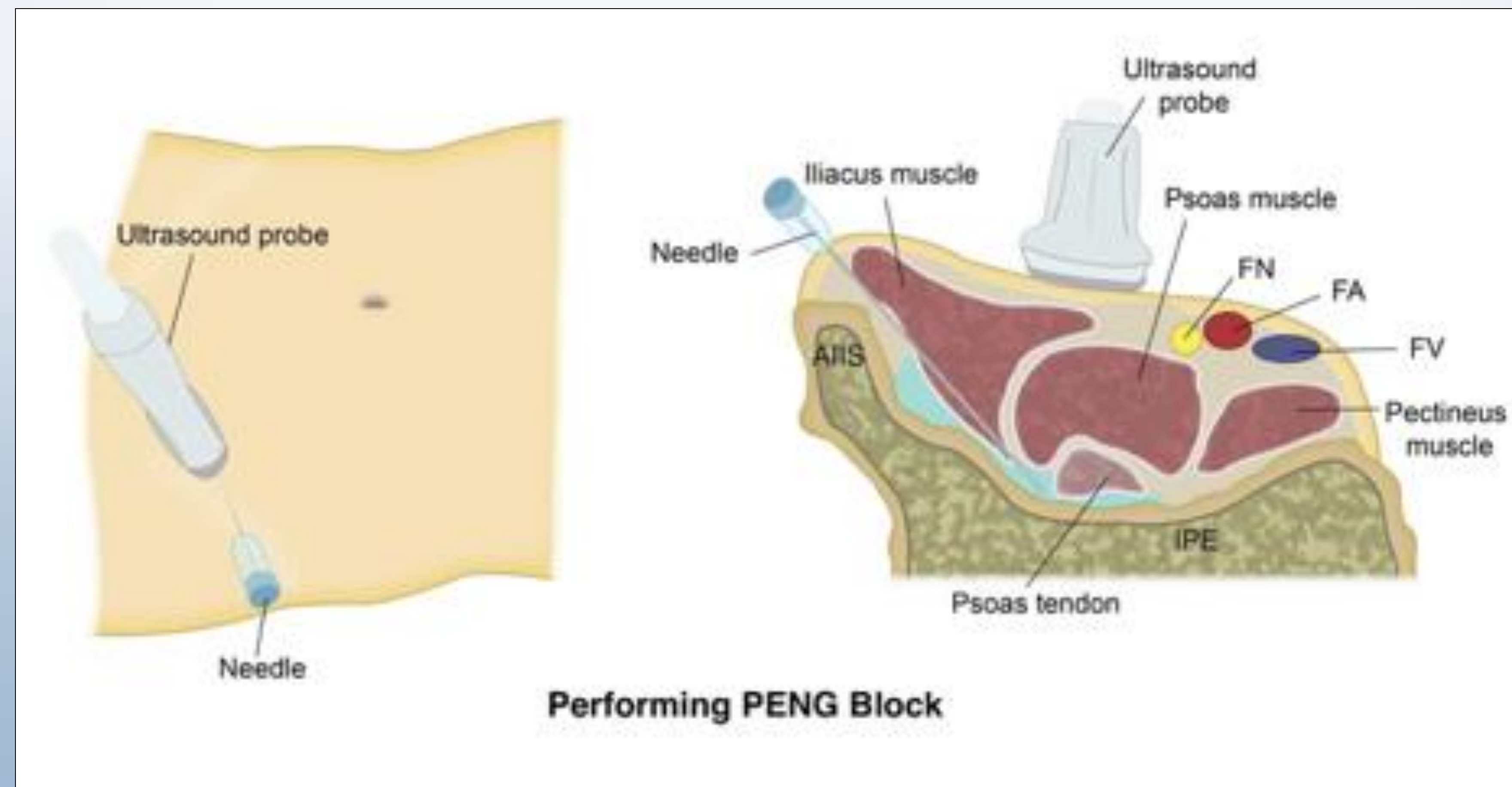
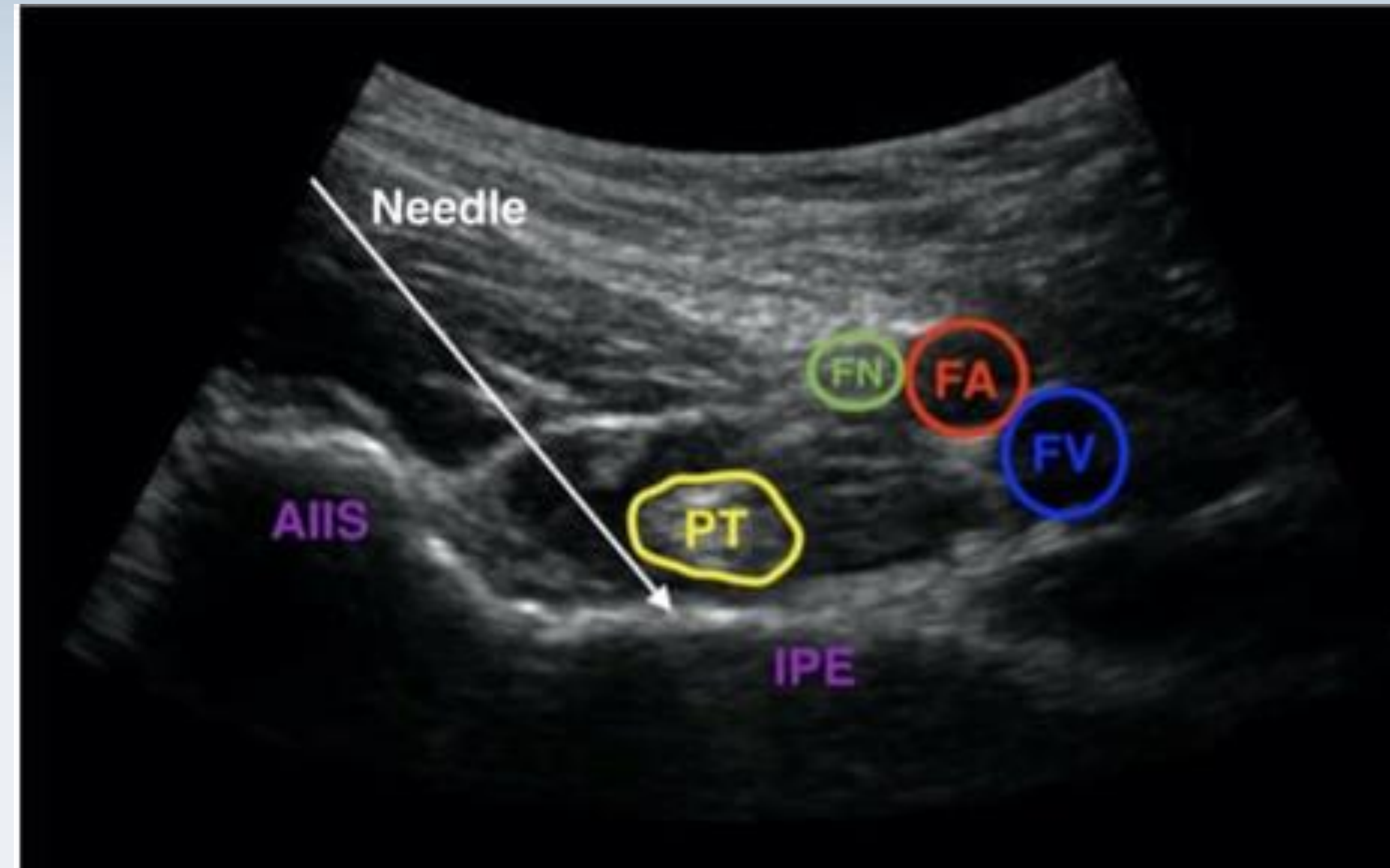


INTRODUCTION

- The pericapsular nerve group (PENG) block is a regional anesthesia technique used to reduce pain after hip surgeries while sparing motor function.
- PENG is an interfascial plane block that targets the articular branches of the anterior hip including the femoral, obturator, and accessory obturator nerves.
- Local anesthetic is deposited between the psoas tendon and superior pubic ramus.
- Literature has previously described its use for patients undergoing hip replacement or fracture repair.
- We performed this block in the post-anesthesia care unit (PACU) on a patient who underwent pelvic limb girdle surgery, which has not been previously described in the literature.

MATERIALS & METHODS

- Patient informed consent was obtained.
- As the case report is devoid of patient identifiable information, it is exempt from IRB review requirements as per Kansas University Medical Center's IRB policy.
- The following materials were used: ultrasound, sterile ultrasound cover and gel, Chloraprep, a 4-inch 22-gauge Stimuplex needle, 1% Lidocaine, 0.25% Bupivacaine, Dexamethasone.
- A pre-procedure timeout was performed which included the following: Confirming the correct patient through two unique patient identifiers, discussing risks & benefits, ensuring informed consent was obtained.
- The following monitors were applied: blood pressure, electrocardiogram, and continuous pulse oximetry. Sterile technique was applied.
- The patient was lying in a supine position with the operator standing on the ipsilateral side. The ultrasound probe was placed in the transverse plane along the femoral crease and the transducer was moved cranially until the anterior inferior iliac spine and iliopubic eminence were visualized. In this view the femoral nerve and artery were seen superficial to the iliopsoas muscle. A skin wheal was made using 2 ml of 1% Lidocaine.
- The Stimuplex needle was inserted through the skin wheal using an in-plane technique from lateral to medial through the iliopsoas muscle toward the plane between the psoas tendon and bone. After confirming negative aspiration, 15 ml of 0.25% Bupivacaine with 4 mg of dexamethasone was injected along this fascial plane.



CASE

- A 56-year-old 86 kg female with a past medical history of rhabdomyosarcoma status post AKA with subsequent closed fracture of the femoral head presented to our hospital to undergo Girdlestone surgery for symptomatic relief.
- This patient had been experiencing persistent pain in her hip requiring the following pain medications: Fentanyl patch 12 mcg/hour, Gabapentin 300 mg three times daily, and Tramadol 50 mg daily.
- After undergoing uneventful surgery and general anesthetic, the patient recovered in the PACU. Despite receiving intravenous opioids (fentanyl, hydromorphone) during the surgery, the patient was complaining of significant discomfort in the anterior hip region, rating pain as 7/10.
- A PENG block was then performed using the previously described method.
- Patient was shortly discharged to her hospital room after an appropriate observation period and improvement in pain, rating it 3/10.
- Patient noted that her pain had significantly improved following the PENG block.
- The patient was able to work with physical therapy the next day without any complication or complaint of motor block.
- The patient discharged on this day and denied any pain, rating pain as 0/10.

DISCUSSION

- The PENG block is a promising regional technique that can be used as an alternative to other nerve blocks such as fascia iliaca (FI) or femoral nerve (FN) block. Additionally, this technique targets all nerves found to be involved in the anterior hip capsule compared to the FI and FN blocks which traditionally spare the obturator nerve.
- This block has several advantages including sparing of motor function. This allows for prevention of quadriceps weakness and early post-surgical mobilization.
- Although studies describing this nerve block have been limited to case reports/series, it has been shown to have the potential to provide equal or greater analgesic benefit than its alternatives.

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