

Figures

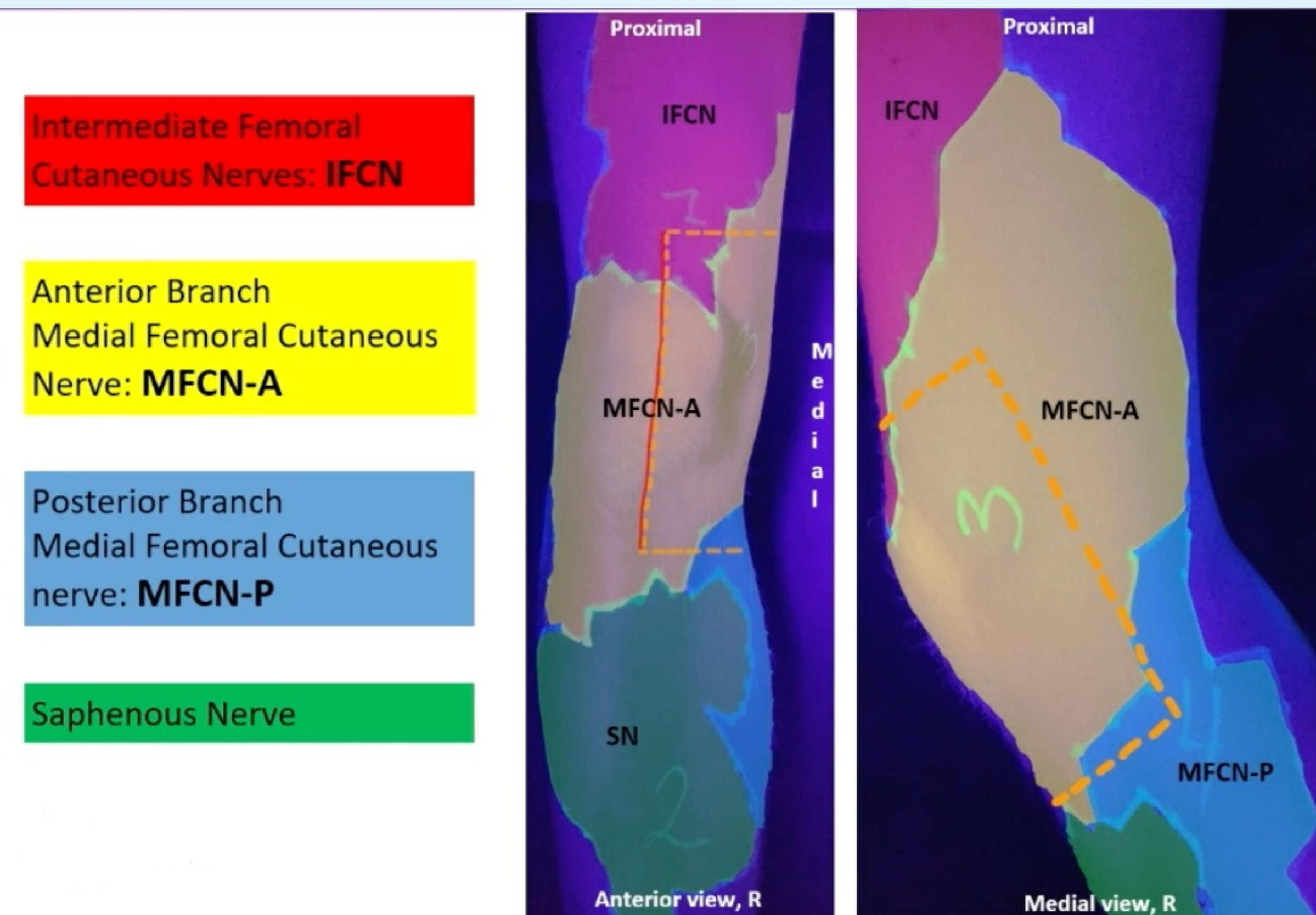


Figure 1: Dermatomal Coverage of the anterior femoral cutaneous nerves and saphenous nerve.³



Figure 2: Ultrasound image of anterior surface of patient sartorius muscle. Sartorius muscle is highlighted in blue lines. Intermediate femoral cutaneous highlighted in red within outcropping of anterior fascia of sartorius muscle.

Case Report: An Intermediate Femoral Cutaneous Nerve Block (IFCN) rescue block following a total knee arthroplasty

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Case Description

In the last several years, there has been a significant interest in motor-sparing blocks for total knee arthroplasty. As we moved from femoral nerve blocks to femoral triangle blocks, some of the cutaneous coverage is routinely getting lost. The case below describes the anatomy and distribution of femoral cutaneous nerves and a technique for blocking one of the branches

A 64 y/o female, with no significant PMH, underwent a right total knee replacement (TKR) with a preoperative femoral triangle block and an IPACK for postoperative pain control. She had an uneventful TKR under spinal anesthesia. In the PACU, she was complaining of 8/10 pain. The pain was described as anterior from about 2-3cm above the right patella and up to approximately mid-thigh. The region of pain was in the intermediate femoral cutaneous nerve (IFCN) distribution.¹ Of note, the patient had a loss to pain and temperature sensation on top of her medial malleolus, consistent with a well-functioning saphenous nerve block. US- guided IFCN blockade was performed as described below.

With the patient in supine position, US transducer was placed on the anterior thigh visualizing the Sartorius muscle in cross section, approximately at the level where the Femoral artery begins to go below the medial margin of the Sartorius in the proximal portion of the Femoral triangle. From this point the transducer was moved along the sartorius muscle to locate the outcropping of fascia on the anterior surface of the sartorius.¹ Withing the outcropping in the fascia, the IFCN was identified and subsequently blocked via a 4in 20-gauge short bevel needle. 10cc of 0.25% bupivacaine was injected at the site. The patient reported 0/10 pain within approximately 10 minutes of nerve blockade.

Figures (Continued)

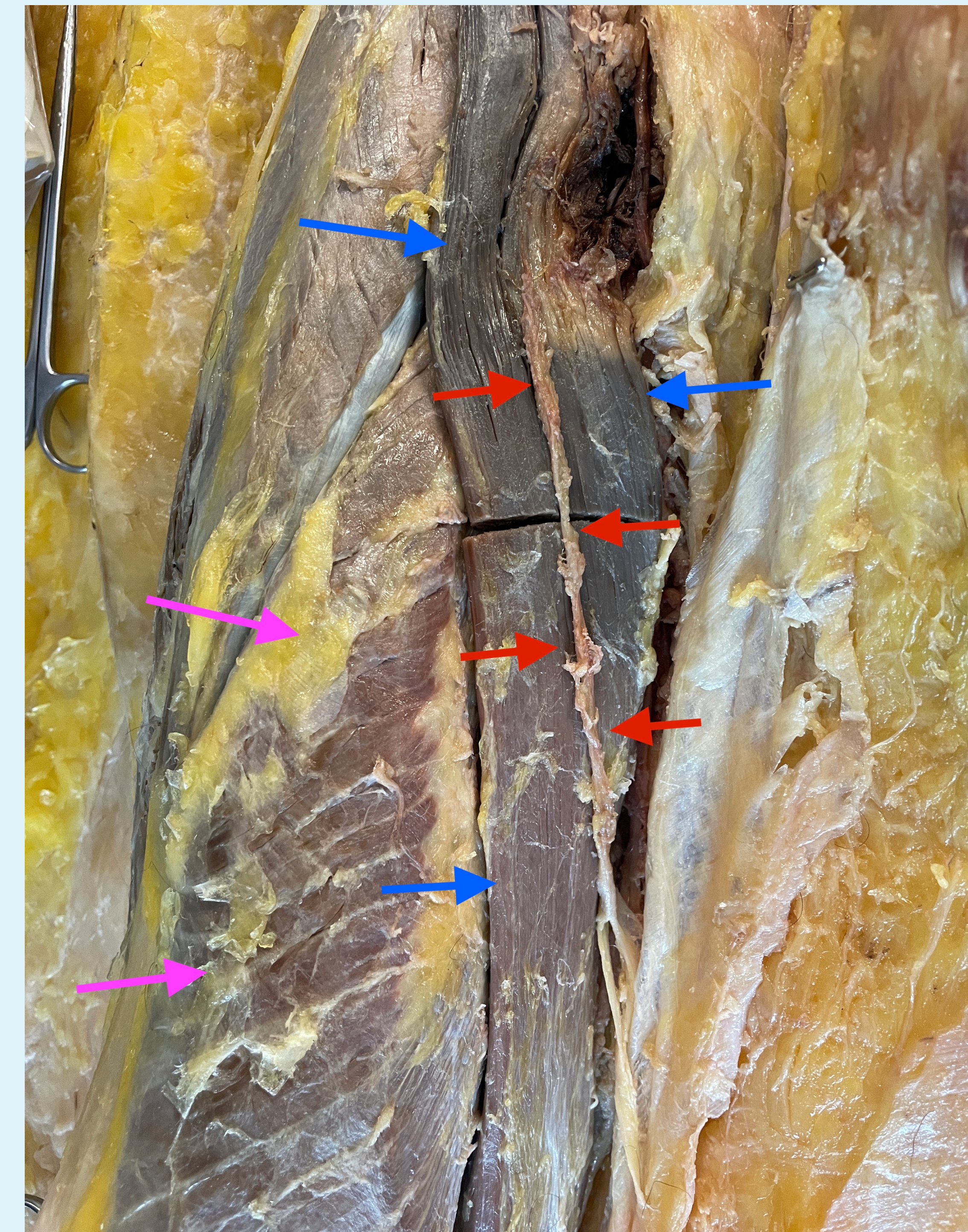


Figure 3: Cadaver dissection on anteromedial thigh. Pink arrows indicate vastus medialis muscle. Blue arrows indicate sartorius muscle. Red arrows indicate Intermediate Femoral Cutaneous Nerve as it runs over the anterior surface of the sartorius muscle.

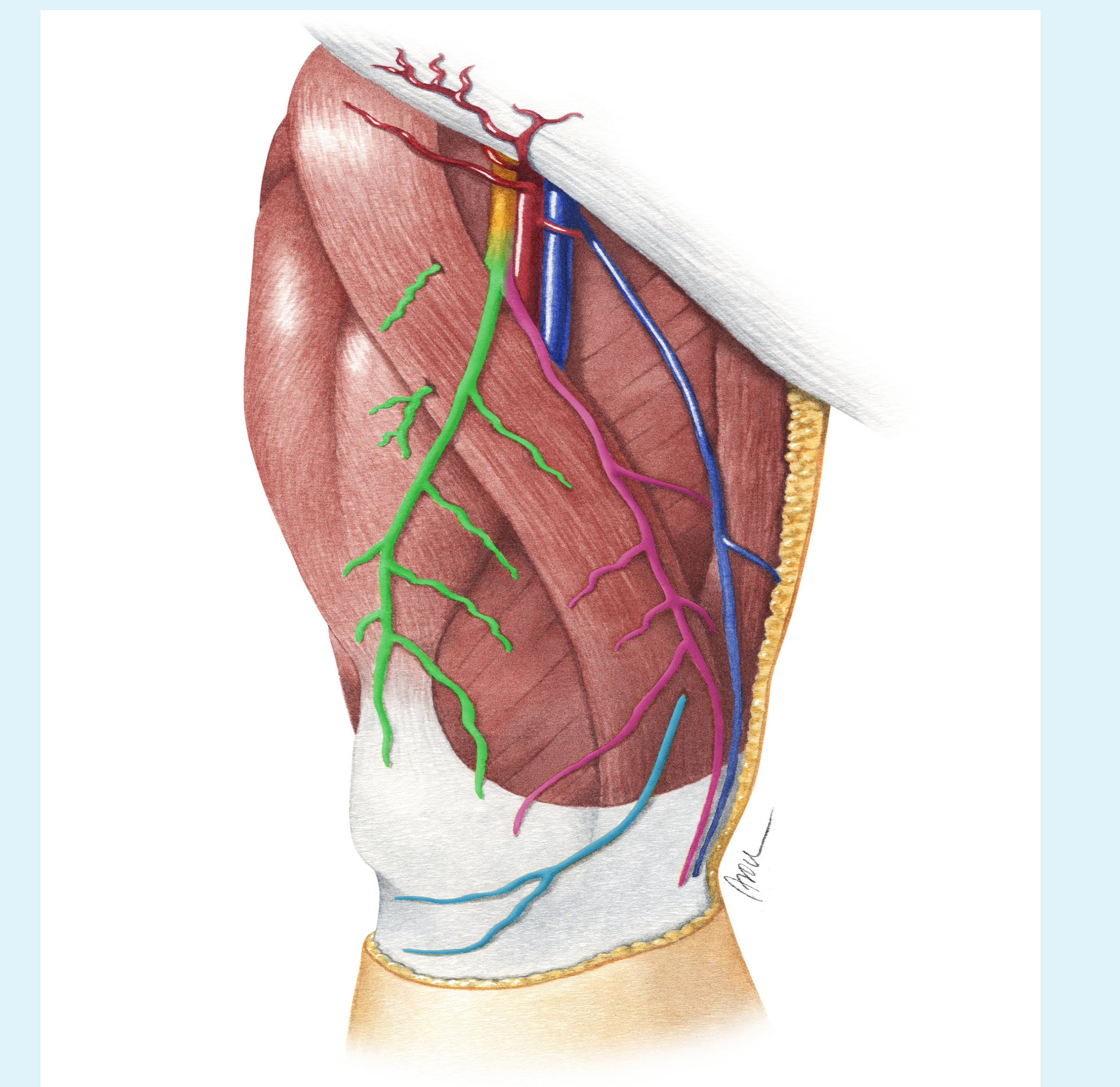


Figure 4: Illustration of the course of the intermediate (green) and medial (pink) femoral cutaneous nerves and the infrapatellar branch of the saphenous nerve (blue)²

References

1. Bjørn S, Nielsen TD, Moriggl B, Hoermann R, Bendtsen TF. Anesthesia of the anterior femoral cutaneous nerves for total knee arthroplasty incision: randomized volunteer trial *Reg Anesth Pain Med.* 2020;45:107–116
2. Riegler G, Pivec C, Jengojan S, et al. Cutaneous nerve fields of the anteromedial lower limb— Determination with selective ultrasound-guided nerve blockade. *Clin Anat.* 2021;34:11–18.
3. De Andres, J., Bjorn, S., Bendsten, T., Dahl Nielsen, T. (2023, March 18). The role of cutaneous nerves in 'mysterious' knee pain after surgery and injury. 5th e-ESRA, Paris, France.