

Tips and trick of this simple but not routinely done nerve block technique explained



ULTRASOUND GUIDED BLOCK OF LATERAL CUTANEOUS NERVE OF THIGH (LCNT) /LATERAL FEMORAL CUTANEOUS NERVE (LFCN)

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# BLOCK OF LATERAL FEMORAL CUTANEOUS NERVE (LFCN) / LATERAL CUTANEOUS NERVE OF THIGH

This sensory nerve can be blocked together **as Fascia Iliaca Compartment Block.** (with the femoral and/or the obturator nerve). Block of this single nerve may be of importance to supplement clinically inadequate femoral nerve block in a percentage of the population.

Understanding the surrounding anatomy is essential in appreciating block of this nerve at various levels. (Note: appreciation of 'double-click' AND the SUPRA-INGUINAL flow of local anaesthetics in the landmark technique for Fascia Iliaca Compartment Block, compared to 'single-click' of the fascia lata for landmark technique for this SINGLE nerve block.)

## **IMPORTANT POINT #1**

Visualization of this nerve may be difficult with the use of 12MHz linear transducer and most techniques describe deposition of local anaesthetics into known plane along which the nerve traverses.

## **IMPORTANT POINT #2**

Techniques described:

i) At the point where femoral nerve is located, move the probe laterally on top of the **Sartorius muscle** which arises from the Anterior Superior Iliac Spine (ASIS). The **overlying fascia is FASCIA LATA.** 

Local anaesthetic is then deposited underneath this fascial layer **ensuring lateral spread** above the Sartorius muscle. (*Figure 1*) – "*SINGLE POP TECHNIQUE*"

ii) At the point where femoral nerve is located, move the probe laterally on top of the **Sartorius muscle.** The **fascia beneath** the triangular Sartorius muscle **is FASCIA ILIACA.** 

Local anaesthetic is then deposited underneath fascia iliaca above the lateral aspect of the ILIACUS muscle **directly beneath Sartorius**. (*Figure 2*) – "DOUBLE POP TECHNIQUE"

- iii) Move the transducer 2 cm medial and below the ASIS. Align the probe laterally to observe the lateral margin of Sartorius muscle bordering Tensor Fasciae Latae laterally. This is the site for injection of local anaesthetic. (Figure 3)
- iv) From the ASIS, move the transducer slightly medial to visualize the triangular origin of Sartorius muscle. Follow this muscle distally for about 2-3 cm and rotate the probe along the tangential axis of this muscle. Align the probe in a lateral-caudad direction towards Tensor Fascia Latae. An indentation of FASCIA LATA is observed on the lateral border of the Sartorius muscle. The nerve lies within this indentation. (Figure 3 and Figure 4)



*Figure 1* showing site of LA deposition (in blue) sited below Fascia Lata utilizing the 'single pop technique'- Technique 1. (see text)



*Figure 2* showing site of LA deposition (in blue) sited below Fascia Iliaca, utilizing the 'Doublepop technique'- Technique 2; which is the classical landmark FICB technique. (see text)



*Figure 3* showing indentation below Fascia Lata, between Tensor Fasciae Latae and the lateral end of the Sartorius, where LFCN can usually be identified.



Figure 4 showing various probe manoeuvres for identification of LFCN. (See text; approach iv.)





*Figure 5* (above) Image showing echo-images surrounding LFCN (arrow); Image below showing sono-anatomy during needle placement.

## **IMPORTANT POINT #3**

### **CONCENTRATION AND DOSES**

Volume between 5 to 10 ml of **half of maximum strength** preparation is used for **ANALGESIA**. (0.375% ropivacaine or 0.25% levo-bupivacaine for prolonged block intention or 1% lignocaine for short block duration)

For **surgical ANAESTHESIA**, concentration of **at least two-thirds maximum strength** of similar volume is used. (0.5% ropivacaine or 0.375% levo-bupivacaine)

# **SUMMARY**

## **IMPORTANT POINT #1**

Understanding the surrounding anatomy in appreciating different approaches.

## **IMPORTANT POINT #2**

There are various described approaches for block of LFCN alone. Can be part of FICB depending on description of technique.

## **IMPORTANT POINT #3**

- Usual volume is between 5-10 ml
- For analgesia, 5 10ml at half strength of maximum concentration for block of LFCN.
- For surgical anaesthesia, similar volume of at least two-thirds maximum strength preparation is ideal.

### **IMPORTANT POINT #4**

A sensory nerve but identification can be done using a peripheral nerve stimulator where specific paraesthesia over the lateral distribution over the thigh can be elicited.