

# Femoral Nerve Block: Provided By Nysora - New York School Of Regional Anesthesia

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## Abstract

Demonstration of a femoral nerve block

Based on:

Vloka JD, Hadzic A, Reiss W, Drobnik L, April EW, Sanborn K, Thys, DM. Femoral Nerve Block: Needle Insertion at the Inguinal Crease Results in more Consistent Nerve Localization. Reg Anesth Pain Med 1998; 23(3):53.

## Figure 6



## INTRODUCTION

A commonly suggested approaches to femoral nerve block involve insertion of the block needle 1-2 cm lateral to the femoral artery just below the inguinal ligament, regardless of the technique (nerve stimulator, paresthesia, double click, arterial pulsation, infiltration, etc.).

## Figure 2

Figure 1: Femoral nerve block is commonly performed 1-2 cm below the inguinal ligament and 1-2 cm lateral to the femoral artery.



Attempt to femoral nerve block frequently requires multiple attempts at localization of the femoral nerve, and yields inconsistent success rate. Performing the block at the level of

the inguinal skin crease however, has given us more consistent results in our practice. Below is a description of this new technique.

### **Figure 3**

Figure 2: The femoral nerve is most consistently localized when the needle is inserted at the level of the inguinal CREASE and just lateral to the artery



### **DESCRIPTION OF THE TECHNIQUE**

A 22G, 50 mm short bevel insulated needle attached to nerve stimulator (0.6 mA) is inserted adjacent to the lateral border of the femoral artery at the level of inguinal crease, a skin fold 3 to 6 cm below and parallel to the inguinal ligament, (Figure 3). The needle is slowly advanced at an angle of 60° cephalad to the horizontal plane while seeking a quadriceps muscle twitch (rhythmic movements of the patella).

### **Figure 4**

Figure 3



If a quadriceps muscle twitch is not obtained, the needle is withdrawn and redirected 10° laterally (Figure 4). If this maneuver does not elicit a quadriceps muscle twitch, the subsequent needle insertions should be placed at increments of 5 mm lateral to the previous insertion sites. Once a quadriceps muscle twitch is obtained at <0.4 mA, the local anesthetic of choice is injected. However, when the initial response is a sartorius muscle twitch, the quadriceps muscle twitch is sought by incrementally re-directing the needle laterally 10° at a time, and advancing the needle several mm beyond the point at which the sartorius muscle twitch was induced. After injecting 30 ml of local anesthetic the onset of blockade is expected within 3-5 minutes when the current is < 0.4 mA. The block is documented by loss of sensation in the antero-medial thigh and saphenous nerve distribution, as well as the presence of quadriceps muscle relaxation.

**Figure 5**

Figure 4



## CONSIDERATIONS

The optimal site of needle insertion when performing the FNB, is the inguinal crease level. Advantages of performing the block at the inguinal skin crease level over performing the block at inguinal ligament level are:

- More superficial position of the femoral artery and nerve,
- Greater width of the femoral nerve,
- More consistent femoral nerve-artery relationship.

{image:6}

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## References

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