

18. SCIATIC NERVE BLOCK: ANTERIOR APPROACH

INTRODUCTION

The anterior approach to the sciatic nerve block is particularly useful in patients needing lower extremity anesthesia who are unable to assume the lateral decubitus position (Figure 18-1). This technique is a deep block that requires a 15-cm needle in adults. It can be associated with more patient discomfort than other approaches, and the location of the femoral artery anterior to the sciatic nerve in this position increases the risk of inadvertent arterial puncture. Continuous peripheral nerve catheters, although possible, are typically avoided using this approach.

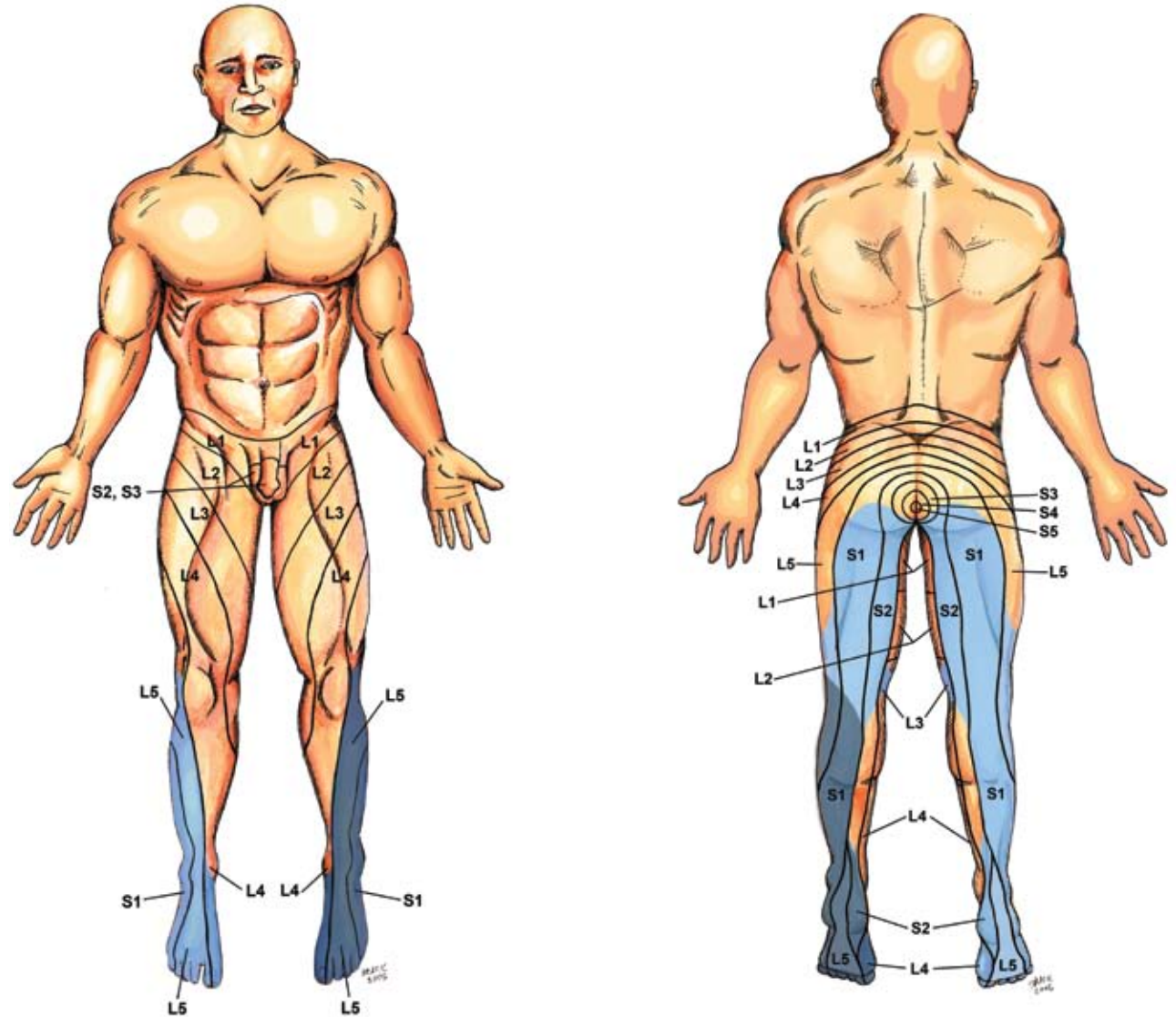


Figure 18-1. Dermatomes anesthetized with the anterior sciatic nerve block (dark blue)

PROCEDURE

Landmarks. With the patient positioned supine, draw a line from the anterior superior iliac spine to the pubic tubercle, and divide the line into thirds. Draw a second line, parallel to the first, medial from the cephalad aspect of the greater trochanter. Then, draw a third line perpendicular from the medial third of the first line to intersect the second line. The intersection, which will be located over the lesser trochanter of the femur, represents the point of initial needle insertion (Figures 18-2 and 18-3). Recent studies have suggested that the lesser trochanter obstructs the route to the sciatic nerve when the leg and foot are in neutral position; however, internal rotation of the leg by 45° exposes the nerve and allows the needle to pass through unobstructed.

Needles

- 21-gauge, 15-cm insulated needle.
- 18-gauge, 15-cm insulated Tuohy needle for catheter placement. Because of the depth of the block, catheters are not recommended; if used, they should be inserted 5 cm beyond the needle tip.

Stimulation. Set the nerve stimulator initially at 1.5 mA, and advance the needle perpendicular to all planes. If bone is contacted, withdraw the needle slightly and rotate the leg internally. Then advance the needle in the same plane as before until a twitch is elicited. If the needle again contacts bone, the initial insertion site may be distal to the lesser trochanter. In this case, slightly withdraw the needle, externally rotate the leg 45°, and then readvance the needle; this should allow a stimulation response to be elicited. Plantar flexion/inversion or dorsiflexion/eversion is sought at a current of 0.5 mA or less. Stimulation of the hamstring muscle suggests the needle is deep to the nerve (Figure 18-4).

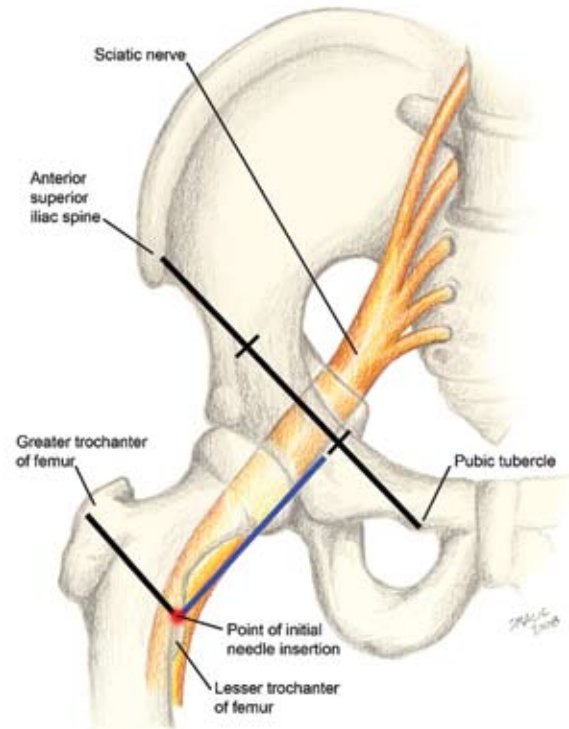


Figure 18-2. Landmarks for anterior sciatic nerve block

Figure 18-3

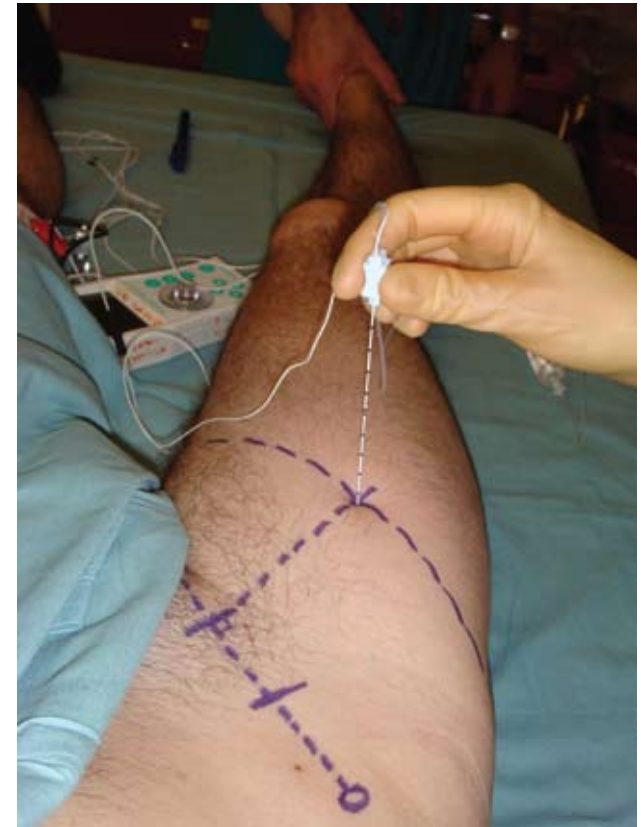
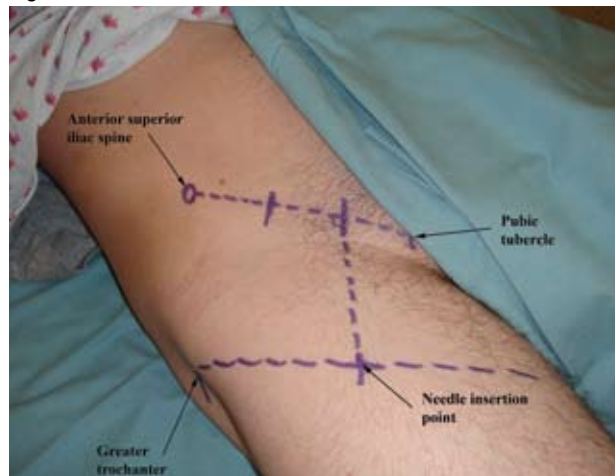


Figure 18-4

Local Anesthetic. In most adults, 30 to 40 mL of local anesthetic is sufficient.

Teaching Points. These blocks depend on local anesthetic volume for success. This approach does not block the posterior cutaneous nerve of the thigh, which may be a problem if a thigh tourniquet is used. A complete block of the lower leg requires the addition of a saphenous nerve block.