

## Image Article

# SUBCUTANEOUS COURSE OF SAPHENOUS NERVE IN MIDHIGH REGION

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## ABSTRACT

Saphenous nerve is a pure sensory nerve which may get compromised as a result of complication of a surgical procedure or entrapment leading to pain and numbness in the medial side of thigh, knee and leg. Secondly, adductor canal block is given very frequently now days to anaesthetize the saphenous nerve for providing analgesia after knee surgeries. During routine cadaveric dissection of the front of thigh, we observed an interesting finding that the saphenous nerve did not follow the usual course in the adductor canal. The saphenous nerve pierced the sartorius in the middle of adductor canal and became subcutaneous. This variant course of the saphenous nerve through the sartorius can be the site of entrapment or it may be the cause of failure of adductor canal block. Although saphenous nerve is a purely sensory nerve, in this condition there is possibility of having motor fibres also which may supply Sartorius while passing through it.

**KEYWORDS:** Sartorius; Saphenous Nerve; Adductor Canal; Entrapment.

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## Access this Article online

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**Web site:** International Journal of Anatomy and Research  
ISSN 2321-4287  
[www.ijmhr.org/ijar.htm](http://www.ijmhr.org/ijar.htm)

Received: 10 Nov 2013

Peer Review: 10 Nov 2013 Published (O):30 Dec 2013

Accepted: 28 Nov 2013 Published (P):30 Dec 2013

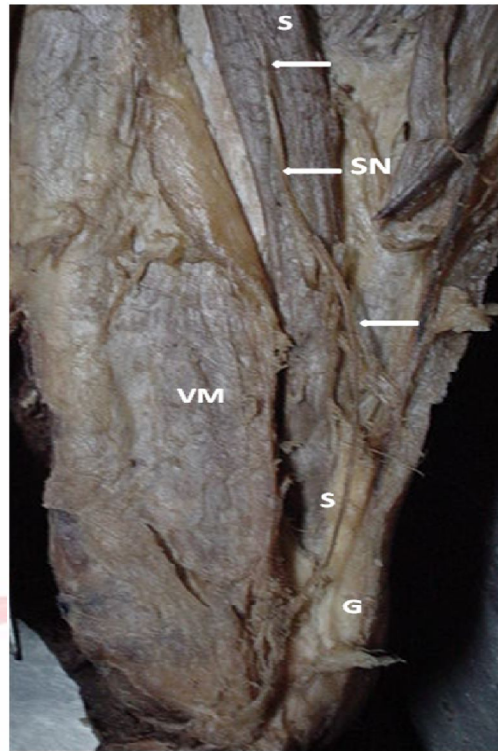
## INTRODUCTION

Anatomically the saphenous nerve is the longest cutaneous branch of the femoral nerve, descends lateral to the femoral artery in the femoral triangle and enters the adductor canal. The saphenous nerve exits the adductor canal posterior to the vastoadductor membrane, which connects the vastus medialis and the adductor muscles to form the roof of the adductor canal. Cutaneous branches of the saphenous nerve can perforate the vastoadductor membrane [1]. Most commonly, the cutaneous branch arises from the saphenous nerve distal to the adductor canal and innervates the medial knee and lower leg [2]. In another study, the cutaneous branch of the saphenous nerve exits 6 cm caudal to the femoral crease, proximal to adductor canal and continued in the superficial plane medial to the Sartorius [3].

Because of its long course, the saphenous nerve can be entrapped in multiple locations but mostly at two sites: the first site is in adductor canal after the saphenous nerve leaves the femoral artery and courses independently through the aponeurotic covering of the adductor canal, the second site is at the exit point of the saphenous nerve distally in the thigh, where it penetrates the fascial tissue between the sartorius and gracilis muscles [4]. The entrapment of the saphenous nerve can occur as a complication of a surgical procedures or secondary to trauma or it may arise insidiously. Primary saphenous neuropathy is uncommon [5]. Recently, the adductor canal block, has gained the popularity to anesthetize the saphenous nerve, because it is associated with a minimal decrease in quadriceps motor strength while providing analgesia after knee surgery [6].

## CASE REPORT

During routine cadaveric dissection of the lower limb in a 60 year old male cadaver, we observed a variation in the course of the saphenous nerve on the right side. The course on the left side was normal. The front of thigh and infrapatellar region was dissected and structures were exposed. The saphenous nerve arose from posterior division of femoral nerve and followed the normal course in the femoral triangle. In proximal part of the adductor canal, the saphenous nerve traversed underneath the Sartorius and was anterior to the femoral artery. In the middle of the adductor canal, the saphenous nerve pierced the Sartorius and continued in the superficial plane medial to the knee and the lower leg. (Fig 1) This is a rare case report where the saphenous nerve has pierced the sartorius and become subcutaneous in the mid thigh region. There is possibility of having motor fibres also, in the saphenous nerve which may supply sartorius while passing through it.



**Fig. 1:** Front of mid thigh showing subcutaneous saphenous nerve.

**S-** Sartorius, **SN-** Saphenous nerve, **VM-** Vastus medialis, **G-** Gracilis

**Conflicts of Interests:** None

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### How to cite this article:

Ranjana Verma, Sabita Mishra, Anitha Mahajan. SUBCUTANEOUS COURSE OF SAPHENOUS NERVE IN MIDTHIGH REGION. *Int J Anat Res* 2013;03:181-2.