

# Infrapatellar Branch of Saphenous Nerve Avoidable During Total Knee Arthroplasty? Cadaveric Study Among Asian Population

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## INTRODUCTION:

Midline skin incision is the standard surgical approach during total knee arthroplasty(TKA). Infrapatellar branch of saphenous nerve(IBSN) is at risk of being injured during TKA, causing numbness over anteromedial of the knee. The aim of the study is to assess the anatomical course of IBSN in relation to midline skin incision during TKA among Asian population.

## MATERIALS & METHODS:

Eight male Asian cadaver knees were dissected. IBSN and its terminal branches were identified and course of the branches were traced in relation to midline skin incision.

## RESULTS:

Majority of the cadavers(75%), consist of all 3 terminal branches, namely superior, middle and inferior branch, and findings are consistent between both knees. The branches branching at the distance between 2.0cm to 5.8cm from the medial border of the patella. All terminal branches crosses the midline skin incision at the level in between the inferior pole of patella and tibial tuberosity and ended at the lateral aspect of the knee.

**Figure 1: Midline skin incision over the left knee(left). Terminal branches of IBSN were identified(right).**



## DISCUSSIONS:

IBSN and its terminal branches are located superficially at the subcutaneous layer, therefore easily missed and hardly avoidable during midline skin incision in TKA. Hence, it is postulated that injury of IBSN could contribute to anterior knee pain post TKA, as a result of neuropathic pain from neuroma formation and often under reported.

## CONCLUSION:

This study shows IBSN with its terminal branches are likely being injured during midline skin incision in TKA due to the nature of its anatomical locations and variations. Thus, it is important that patient is well informed regarding the possible complications preoperatively.

## REFERENCES:

1. Lee et al., Cadaveric Study of the Infrapatellar Branch of Saphenous Nerve: Can Damage Be Prevented in Total Knee Arthroplasty? Journal of Clinical Orthopaedics and Trauma 2018; 547