**What is the Risk Posed to Lateral Femoral Cutaneous Nerve (LFCN) in Modern Hip Surgery?**

**Introduction**: The LFCN is the main neurovascular structure at risk during the Minimally Invasive Anterior Approach (MIAA) for total hip arthroplasty (THA), and during placement of the anterior portal (AP) in Supine Hip Arthroscopy (SHA). In this cadaveric study, we aimed to quantify this risk by examining the course of the nerve and its branches in the lower limb in relation to the MIAA incision and the insertion point for the AP.

**Methods**: Forty-five hemipelves from Thirty-nine cadavers (19 female, 20 male) with no previous lower limb surgery and a mean age at death of 83.9 years were dissected. The LCFN was identified proximal to the inguinal ligament, and its path in the thigh identified. The positions of the nerve and its branches in relation to the MIAA incision and the site for AP placement were measured using Vernier Callipers. All data were analysed using version 3.2.1 of R.

**Results**: 44% of nerves crossed the incision line used in the MIAA, at an average distance of 47.0 ±28.0mm from the proximal end of the incision. Of those that did not cross the incision line, the average minimum distance between the nerve and incision was 14.4 ±7.4mm,which occurred at an average of 74.0 ±37.2mm distal to the proximal end of the incision. In addition, the AP was placed in the path of the nerve on 38% of occasions, with an average distance of 2.9 ±5.7mm between the nerve and the portal.

**Conclusion**: The LFCN is at high risk during both SHA and THA using the MIAA. Our study emphasises the need for careful dissection during these procedures. Our data suggest that relocation of the AP and the incision in the MIAA 10mm more laterally will reduce the risk posed to the LFCN.