

Anatomical relations of anterior and posterior ankle arthroscopy portals: a cadaveric study

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Abstract:

Background Ankle arthroscopy is an increasingly used technique. Knowledge of the anatomical structures in relation to its portals is paramount to avoid complications.

Methods Twenty cadaveric ankles were analysed to assess the distance between relevant neurovascular structures to the anteromedial, anterolateral, posteromedial, and posterolateral arthroscopy portals.

Results The intermediate dorsal branch of the superficial peroneal nerve was the closest structure to any of the portals (4.8 mm from the anterolateral portal), followed by the posterior tibial nerve (7.3 mm from the posteromedial portal). All structures analysed but one (posterior tibial artery) were, at least in one specimen, \5 mm distant from one of the portals.

Discussion This study provides information on the anatomical relations of ankle arthroscopy portals and relevant neurovascular structures, confirming previous studies identifying the superficial peroneal nerve as the structure at highest risk of injury, but also highlighting some important variations. Techniques to minimise the injury to these structures are discussed.

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