

## A NOVEL TECHNIQUE OF ISOLATED GASTROCNEMIUS RECESSON: A CADAVERIC COMPARISON WITH STRAYER PROCEDURE

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### ABSTRACT

Strayer's gastrocnemius recession is a common technique in treating ankle equinus of gastrocnemius origin. Nevertheless, this technique is associated with a few flaws. We aim to introduce a novel technique of isolated gastrocnemius recession and perform a cadaveric study to evaluate its safety, at the same time compare this novel technique with the existing Strayer procedure biomechanically. Eight fresh cadaveric models of gastrocnemius tightness were established by isolated traction of the gastrocnemius muscles. Gastrocnemius recession was performed on all eight models with Strayer method and the novel method randomised equally. The safety of both the techniques was evaluated by identifying any iatrogenic injury to the surrounding structures. The lengthening and improvement of the ankle dorsiflexion was measured and compared between the two techniques. There was no iatrogenic sural nerve or saphenous vein injury in all eight models. There was no significant difference between the two techniques in terms of lengthening (24.25 mm vs 21.00 mm;  $p=0.838$ ) and improvement of ankle dorsiflexion (26.5-degree vs 26 degree;  $p=0.829$ ). Both Strayer technique and the novel technique of gastrocnemius recession lengthened the gastrocnemius and improved the ankle dorsiflexion in this cadaver trial. Both procedures were safe with proper techniques and there was no significant difference in efficacy between them. The cadaveric study of the novel technique of gastrocnemius recession show that it is safe and effective in the treatment of conditions associated with isolated gastrocnemius tightness.

**Keywords:** Gastrocnemius recession; Equinus; Ankle; Novel technique; Strayer.

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