

A novel technique of isolated gastrocnemius recession: A cadaveric comparison with Strayer procedure,
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Level of Evidence: 2

Reviewer:

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Ankle equinus can be caused by tightness of the gastrocnemius muscle, soleus muscle, Achilles tendon, or combination of all. Gastrocnemius recession is often associated with complications such as iatrogenic sural nerve injury, plantar flexion weakness, and overlengthening. The authors introduced a novel technique of the gastrocnemius recession, modifying the Strayer technique to overcome the complications seen with gastrocnemius recession.

Instead of a transverse cut at the musculotendinous junction in a standard Strayer procedure, two 45-degree cuts are made from the medial to lateral aspect to separate the gastrocnemius muscles for the novel technique of gastrocnemius recession. In the study, the authors identified the outcomes of ankle dorsiflexion improvement from the novel technique versus the Strayer procedure acting as a control. Eight cadaveric models of gastrocnemius tightness were created. Gastrocnemius recession was performed on all eight models with the novel method and Strayer method. Iatrogenic injury was recorded. The lengthening and improvement of ankle dorsiflexion was measured and compared.

In the study, there was no iatrogenic sural nerve or saphenous nerve injury. Using the novel technique of gastrocnemius recession, a mean gastrocnemius lengthening of 21 mm was obtained and 26° of ankle dorsiflexion improvement. Using the Strayer technique, a mean gastrocnemius lengthening of 24.25 mm was obtained and 26.5° of ankle dorsiflexion improvement was obtained; there was no significant difference in efficacy between either procedure.

The authors concluded that this cadaveric biomechanical study of the novel technique of gastrocnemius recession proved that the novel procedure is safe and effective in the treatment of conditions associated with isolated gastrocnemius tightness and is non-inferior the standard Strayer technique.



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