KEY PROCEDURES

FASCIOTOMY FOR CHRONIC EXERTIONAL
COMPARTMENT SYNDROME OF THE LEG

Brett D. Owens, MD, EStephan J. Garcia, MD, Curt J. Alitz, MD

Published outcomes of this procedure can be found at: *J Bone Joint Surg Am.* 2013 Apr 3;95(7):592-6.

COPYRIGHT © 2016 BY THE
JOURNAL OF BONE AND JOINT
SURGERY, INCORPORATED

Click the arrow above or go to surgicaltechniques.jbjs.org to view the video article described in this summary.

Abstract

Surgical release of the anterior and lateral compartments of the lower leg has been shown to relieve the symptoms of chronic exertional compartment syndrome. We utilize a technique that allows the surgeon to perform anterior and lateral compartment fasciotomies through a single incision while safely identifying the superficial peroneal nerve. After positioning the patient supine on the operating table with the operative extremity prepared and draped, anatomic landmarks are identified on the patient's skin. The major steps of the procedure are (1) identifying the distal end of the fibula, anterior fibular diaphysis, tibial crest, fibular head, and lateral aspect of the patella; (2) drawing the skin incision, beginning 6 to 8 cm proximal to the distal end of the fibula centered between the tibial crest and anterior fibular diaphysis and extending it 6 cm proximally; (3) making a skin incision longitudinally and dissecting the subcutaneous tissue to allow identification of the fascia and superficial peroneal nerve; (4) performing gentle neurolysis; (5) identifying the anterior and lateral compartments, making small incisions in the fascia of each compartment, and then performing fasciotomy of the lateral and then anterior compartments while protecting the superficial peroneal nerve; and (6) irrigating the wound, closing it in layers, and applying a soft, compressive dressing. Postoperatively, the patient is allowed to bear as much weight as he or she can tolerate. Current literature indicates that good-to-excellent outcomes can be expected for 90% to 95% of patients treated with fasciotomy. Military personnel and patients with posterior compartment involvement may have less reliable outcomes.

Brett D. Owens, MD
Brown University Alpert Medical School, 100 Butler Drive,
Providence, RI 02906

EStephan J. Garcia, MD
Curt J. Alitz, MD
Keller Army Hospital, West Point, NY 10996

Disclosure: None of the authors received payments or services, either directly or indirectly (i.e., via his or her institution), from a third party in support of any aspect of this work. None of the authors, or their institution(s), have had any financial relationship, in the thirty-six months prior to submission of this work, with any entity in the biomedical arena that could be perceived to influence or have the potential to influence what is written in this work. One or more of the authors has had another relationship, or has engaged in another activity, that could be perceived to influence or have the potential to influence what is written in this work. The complete

Disclosures of Potential Conflicts of Interest submitted by authors are always provided with the online version of the article.

References

1. Detmer DE, Sharpe K, Sufit RL, Girdley FM. Chronic compartment syndrome: diagnosis, management, and outcomes. *Am J Sports Med.* 1985 May-Jun;13(3):162-70.
2. Waterman BR, Laughlin M, Kilcoyne K, Cameron KL, Owens BD. Surgical treatment of chronic exertional compartment syndrome of the leg: failure rates and postoperative disability in an active patient population. *J Bone Joint Surg Am.* 2013 Apr 3;95(7):592-6.