

Foot & Ankle International

<http://fai.sagepub.com/>

Correction of Severe Valgus Deformity During Ankle Arthrodesis: Technique Tip

José A.V. Sanhudo

Foot Ankle Int 2006 27: 748

DOI: 10.1177/107110070602700918

The online version of this article can be found at:

<http://fai.sagepub.com/content/27/9/748>

Published by:



<http://www.sagepublications.com>

On behalf of:



[American Orthopaedic Foot & Ankle Society](http://www.aofas.org)

Additional services and information for *Foot & Ankle International* can be found at:

Email Alerts: <http://fai.sagepub.com/cgi/alerts>

Subscriptions: <http://fai.sagepub.com/subscriptions>

Reprints: <http://www.sagepub.com/journalsReprints.nav>

Permissions: <http://www.sagepub.com/journalsPermissions.nav>

>> [Version of Record](#) - Sep 1, 2006

[What is This?](#)

Correction of Severe Valgus Deformity During Ankle Arthrodesis: Technique Tip

José A.V. Sanhudo, M.D.
Porto Alegre, RS, Brazil

INTRODUCTION

Ankle arthrodesis is a widely used procedure for pain relief of severe ankle arthritis. Arthroscopic ankle arthrodesis has been described with good results when correction of alignment is not necessary.^{2,5,6} When deformity is present, an open technique is indicated.³ Valgus deformities usually are corrected by removing bone until satisfactory alignment is achieved, but this technique may lead to limb shortening.⁴ This modification uses a wedge-like bone-block graft from the distal fibula to correct valgus deformity. Alignment is obtained without graft removal through another incision, and limb shortening does not occur. Screw fixation yields a stable arthrodesis. Currently, 12 patients have been treated with this technique; bone healing was achieved in 10 patients, within 12 to 16 weeks. Bone healing became evident at 20 weeks after surgery in the other patients.

SURGICAL TECHNIQUE

Through a transfibular approach¹ to the ankle joint, the distal fibula is harvested and a bone-block graft is contoured (Figures 1, A and B). After distraction of both the talus and distal tibia using a laterally placed distractor, adjacent joint surfaces are stripped of articular cartilage and cortical bone. Drill holes and grooves are made into the entire graft surface, which is inserted into the ankle joint with the base lateral, thus correcting the valgus deformity (Figure 1, C). The tibia, fibular graft, and talus are fixed with two or three cancellous lag screws. Kirschner wires can be used to reinforce the fixation (Figures 2, A and B). In some patients, Achilles tendon lengthening is done

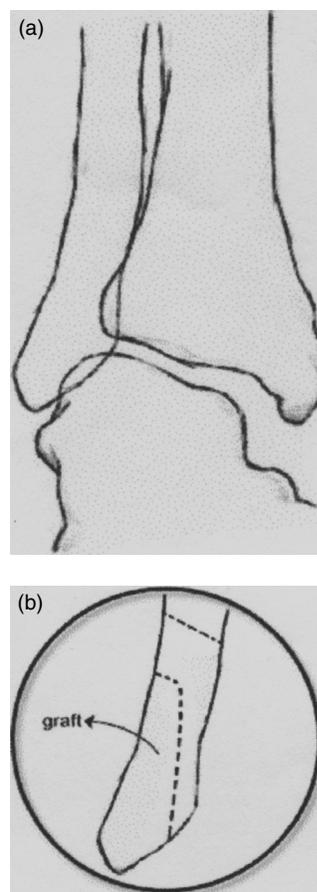


Fig. 1: A, Schematic of an ankle with severe valgus deformity. B, Detail of the distal fibula where the graft will be harvested. C, Postoperative schematic representation of the procedure.

through the same incision to allow equinus correction. Postoperatively, the limb is kept unloaded for 6 weeks, when partial weightbearing is started with cast immobilization until radiologic bone healing is evident at both graft interfaces.

Corresponding Author:
José A.V. Sanhudo, M.D.
Rua Borges do Canto 22
90630-020-Porto Alegre, RS
Brazil
E-mail: jsanhudo@ceotrs.com.br
For information on prices and availability of reprints, call 410-494-4994 X226

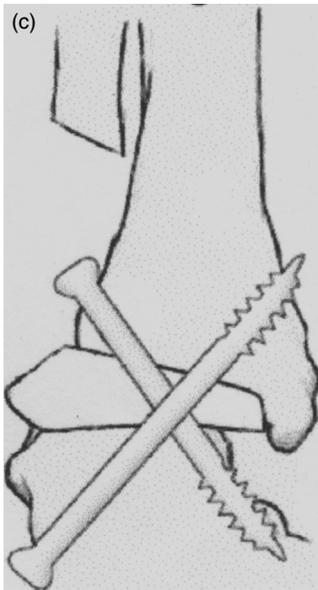


Fig. 1: (Continued)

REFERENCES

1. Adams, JC: Arthrodesis of the ankle joint. Experience with the transfibular approach. *J. Bone Joint Surg.* **30-B**:506–511, 1948.
2. Hartel, RM; Van Dijk, CN; Van Kampen, A, et al: Arthroscopic arthrodesis of the ankle. A new technique. *Acta Orthop. Scand.* **64 (Suppl 253)**:10, 1993.
3. Iwata, H; Yasuhara, H; Kawashima, K, et al: Arthrodesis of the ankle joint with rheumatoid arthritis: Experience with transfibular approach. *Clin. Orthop.* **153**:189,1980.
4. Mann, RA: Arthrodesis of the foot and ankle. In Mann RA, Coughlin MJ (eds.), *Surgery of the Foot and Ankle*, CV Mosby Co, St. Louis, pp. 673, 1993.
5. Myerson, MS; Allon, SM: Arthroscopic ankle arthrodesis. *Contemp. Orthop.* **19**:21–29,1989.
6. Myerson, MS; Quill, G: Ankle arthrodesis: A comparison of an arthroscopic and an open method of treatment. *Clin. Orthop.* **268**:84–95, 1991.

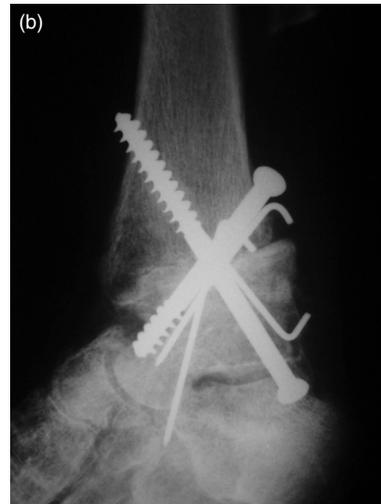


Fig. 2: A, Preoperative radiograph of the ankle with arthritis and severe valgus deformity. B, Postoperative oblique view of the same ankle with arthrodesis, with the fibular graft bone block fixed with screws and Kirschner wires.