The circular arc internal fixation for tibio-talo-calcaneal arthrodesis

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Disclaimer:

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Tibio-talo-calcaneal arthrodesis may achieve excellent clinical results, when:
- alignment is perfect in all planes
- fixation remains stable for functional aftertreatment
normal, stable alignment follows a circular arc

slightly inclined towards medial
Optimal fixation: form-fit by central nail
(no anatomical central cavity)

Reamed cavity

Nail implant

100% contact bone - implant
Cadaver tests

no minimal alteration of alignment while fixed
Clinical application

1. Prepare the joints to be fused (debridement)
2. Correct alignment in all planes
3. Temporary fixation

Radiological control

Lateral decubitus
Postero-lateral approach
Clinical application

Aiming guide: 3 points define the plane of the nail.
Clinical application

Setting the reamer within the plane of the nail
Clinical application
- Introduction of the nail

- Securing the nail
Clinical application

Locking bolts

Casuistics: 12 cases  age: 57 (50-65)
4 M, 8 W
WB: 2 weeks post-op (cam walker)
FU: 04-2013 - 04-2016
Pathologies:
CP 1, Charcot 1, club foot 3, post-trauma 3, PAR 2, Arthrosis 2
References

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The Foot, from Evaluation to Surgical Correction