



SUBTALAR JOINT ARTHRODESIS

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Indications

Posttraumatic subtalar arthrosis

Idiopathic subtalar arthrosis

Talo-calcaneal coalition

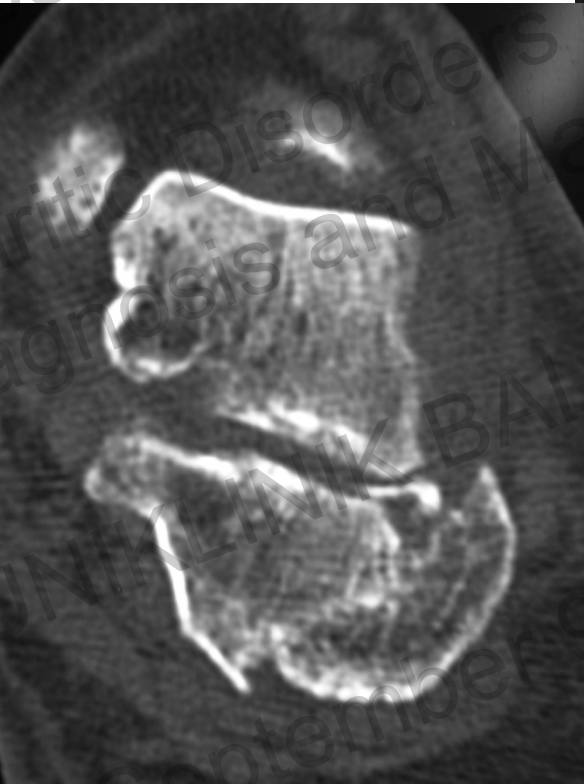
Varus or valgus deformity of the hindfoot



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Posttraumatic arthrosis

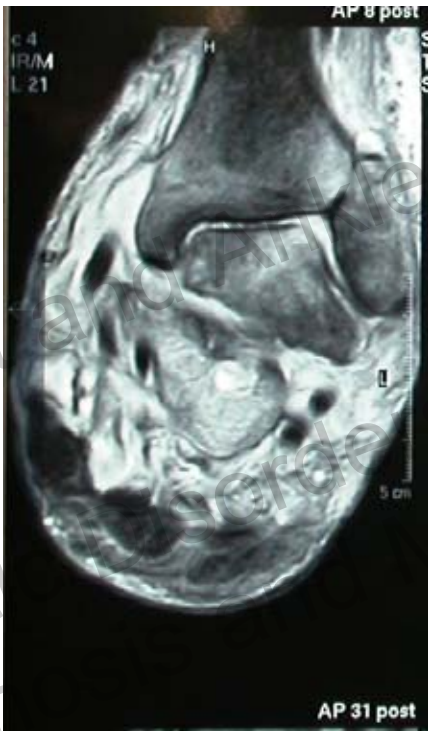


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Coalition

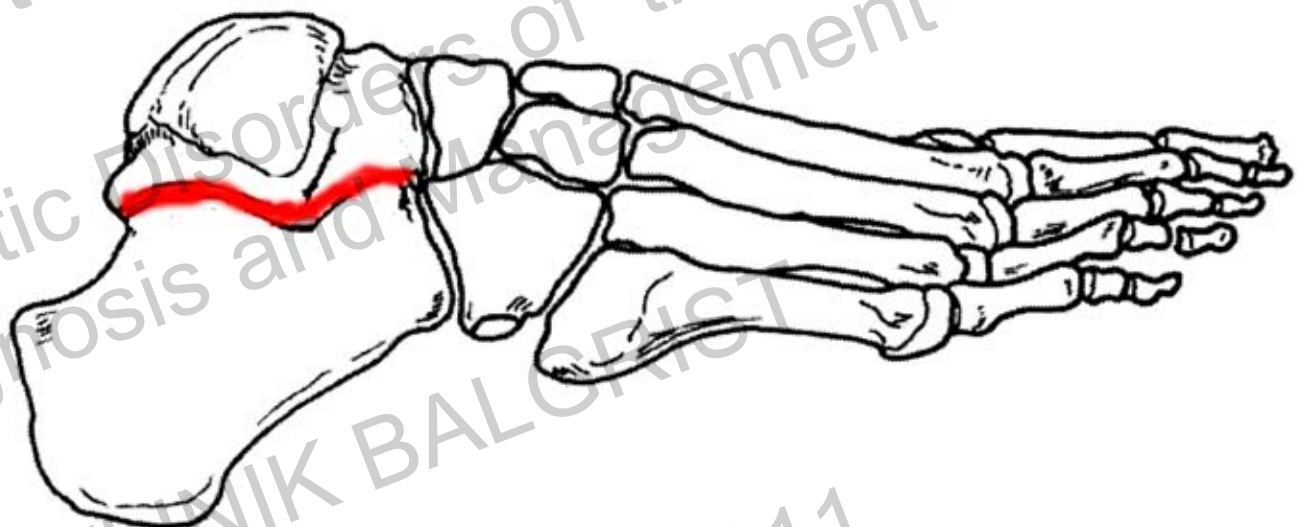
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55 year old male
DM, subtalar dislocation
varus deformity



The technique



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lateral position



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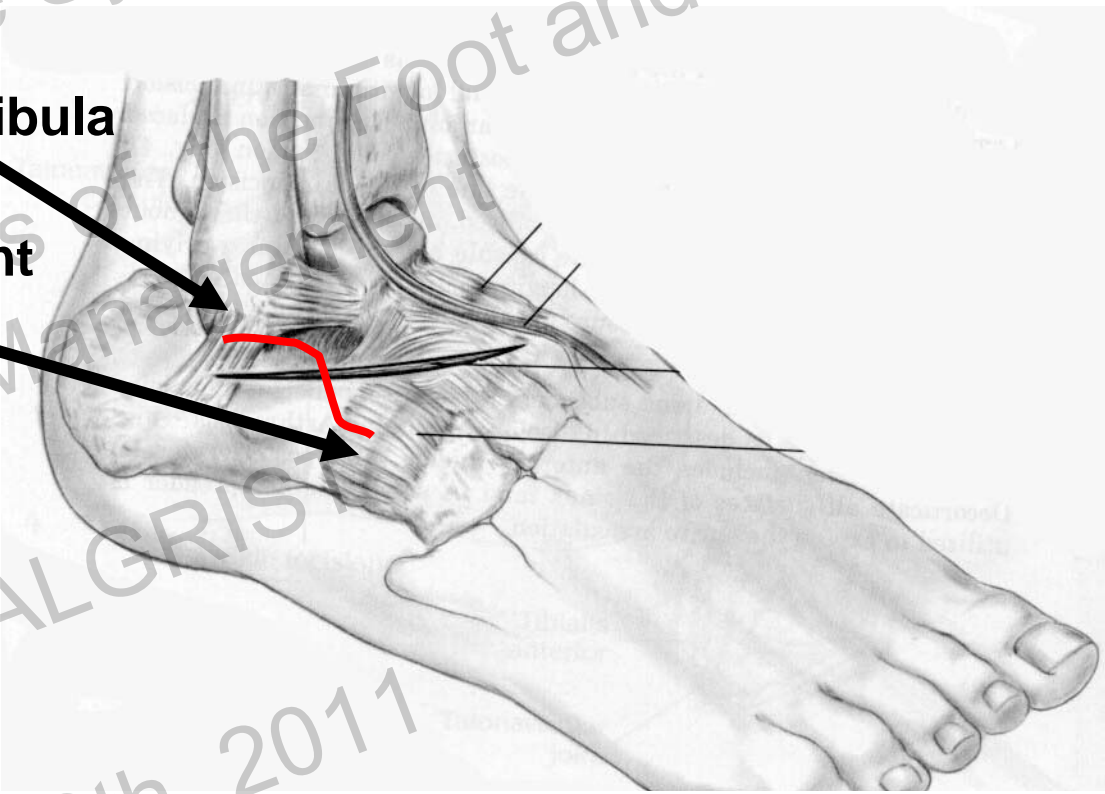


Incision

Overlying the sinus tarsi

from the tip of the fibula

Calcaneocuboid-joint





Incision

Overlying the sinus tarsi

from the tip of the fibula

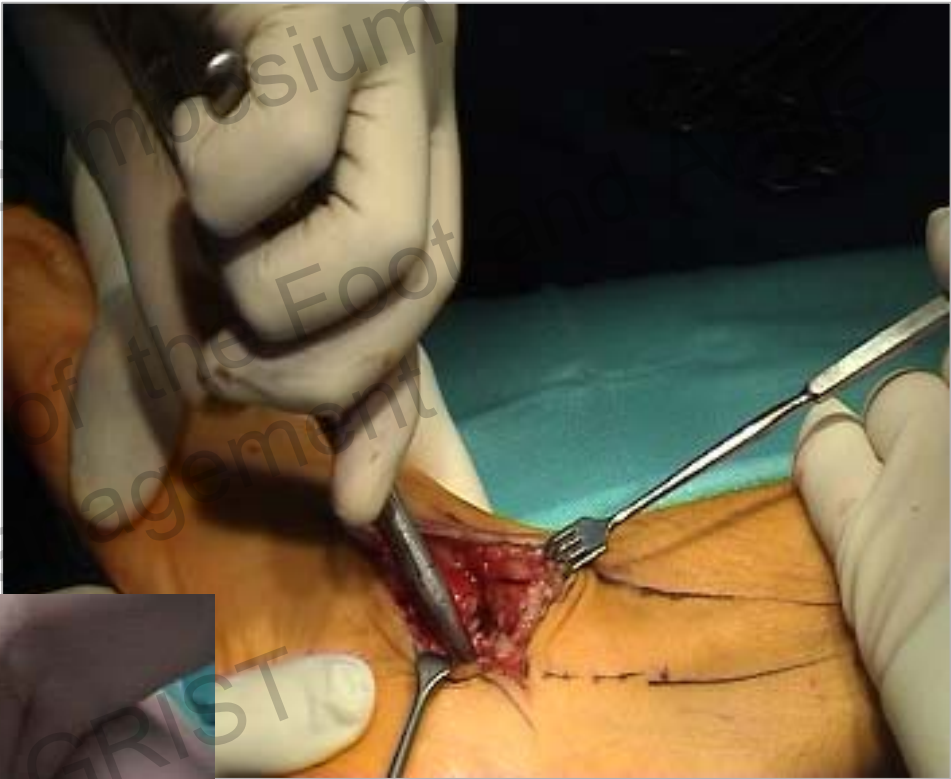
Calcaneocuboid-joint



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**Excision of the
sinus tarsi**



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Lamina spreader



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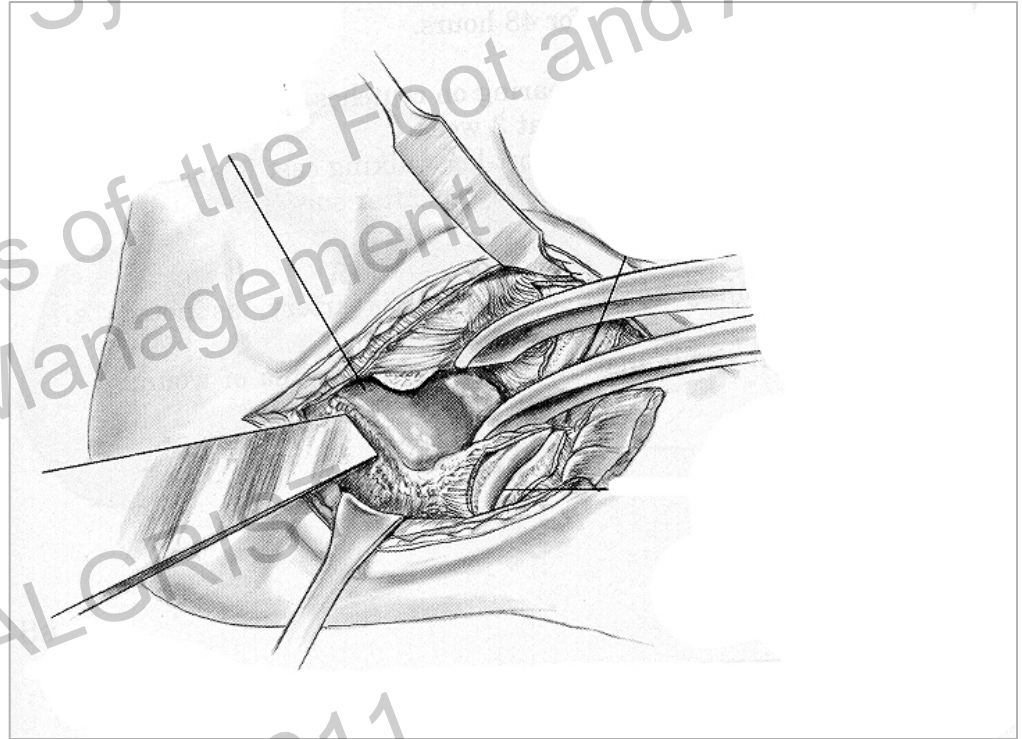
Lamina spreader





Removing the cartilage

- chisel
- curette
- burr





Removing the cartilage

- chisel
- curette
- burr



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- Removing the cartilage
 - **chisel**
 - **curette**
 - **burr**



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3rd Foot and Ankle Symposium
Arthritic Disorders of the Foot and Ankle
Diagnosis and Management

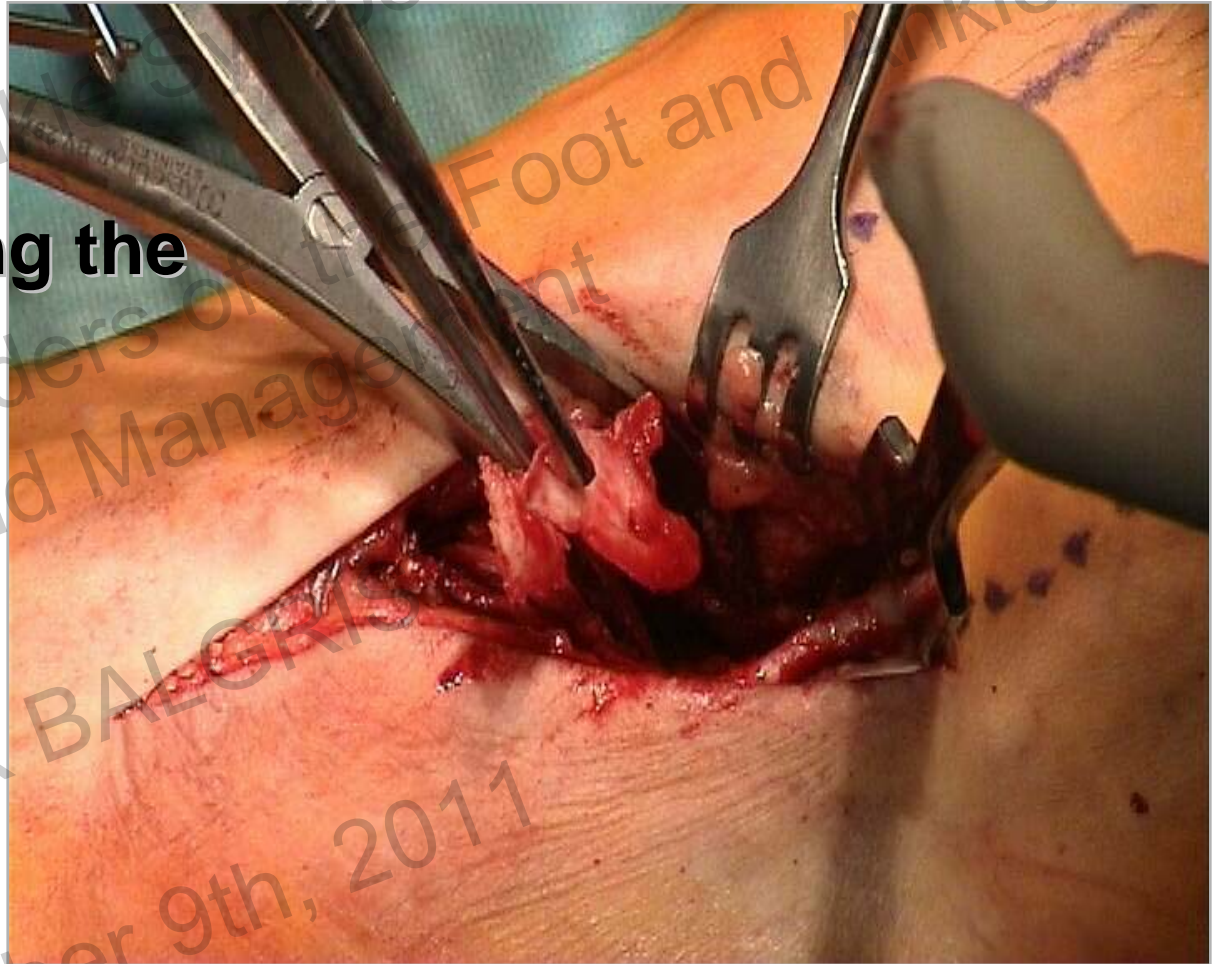


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balgrist

- **Removing the cartilage**

- » **chisel**
- » **curette**
- » **burr**



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Removing the cartilage

- chisel
- **curette**
- burr



Position

5 to 7 degree valgus





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UNIKLINIK BALGRIST

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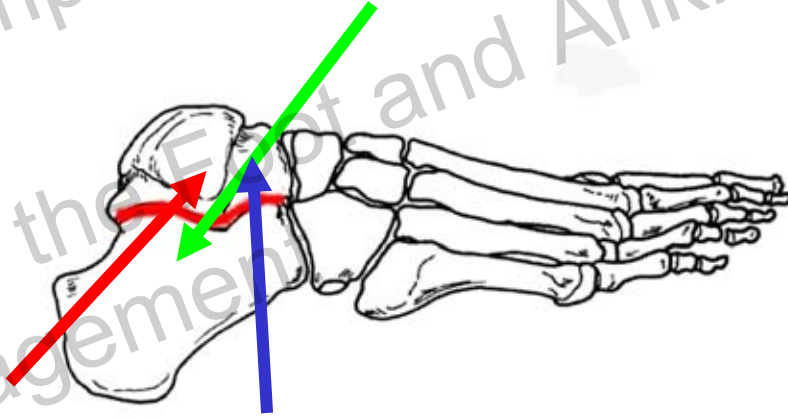


Fixation

Position of the screw

Type of screw

Number of screws 1 or 2





Gosch C., et al

J Foot Ankle Surg 2006

Comparison of initial compression force

2 fixation methods

- **plantar vertical screw**
- **posterior obliquely screw**

posterior obliquely 581 N

plantar vertical 604 N

difference not significant

plantar vertical screw is an alternative



McGlamry, Robitaille, et al

J Foot Ankle Surg 2004

Comparison of pullout force

2 fixation methods

- **dorsal to plantar (threads are in the calcaneus)**
- **plantar to dorsal (threads are in the talus)**

**dorsal to plantar significantly higher
pullout forces ($p = 0,000085$)**



DeCarbo, Berlet, et al.

Foot Ankle Spec 2010 Aug 3(4)

Single-screw fixation for subtalar joint fusion does not increase nonunion rate

113 patients

- **89 single screw fixations**
- **24 double screw fixations**

Mean FU 11 months

14,6% non union after single screw fixation

25% non union after double screw fixation

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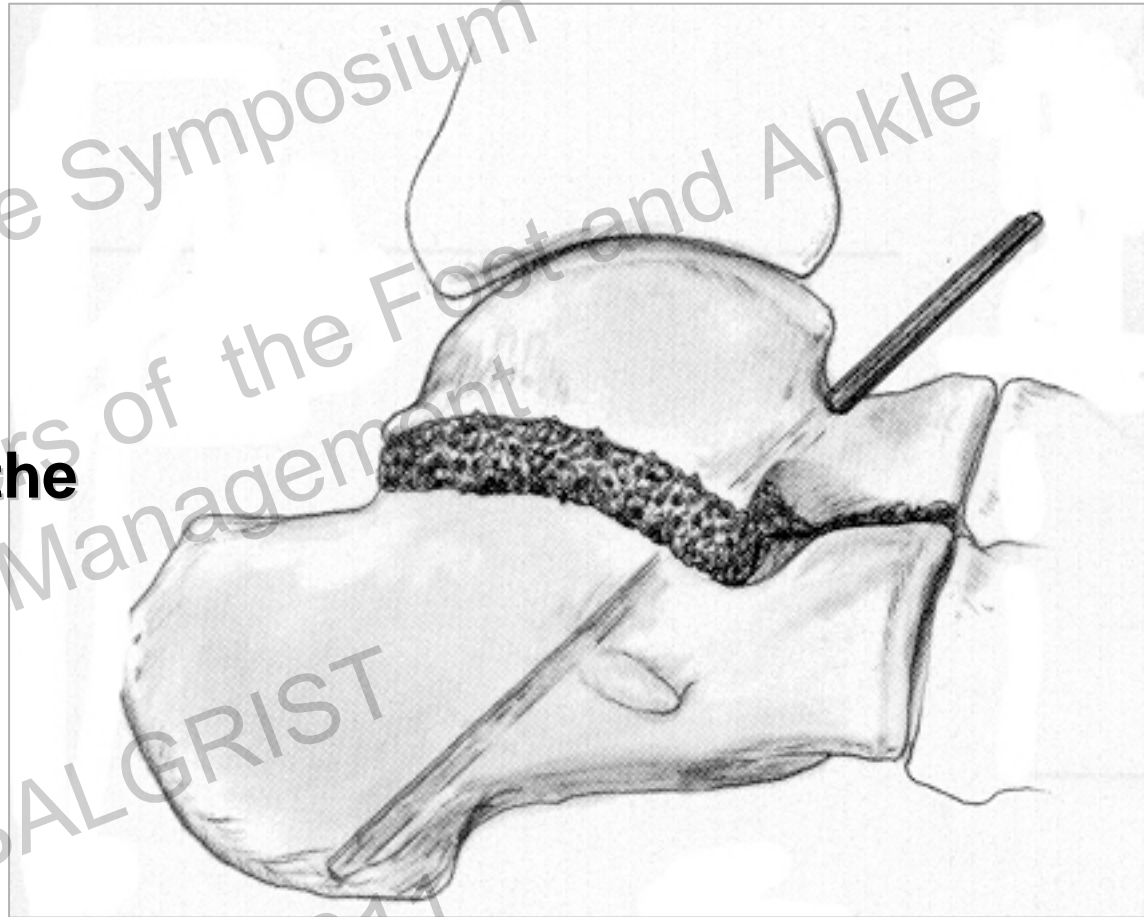


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Positioning of the k-wire

- freehand



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Positioning of the k-wire

- Freehand
- **fluroscan**



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**Positioning
the k-wire**

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- **Screw**



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1 screw



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7.3 AO



Postoperative regimen

Cast NW 2 to 6 weeks

Cast WB 4 to 6 weeks





Complications

Nonunions

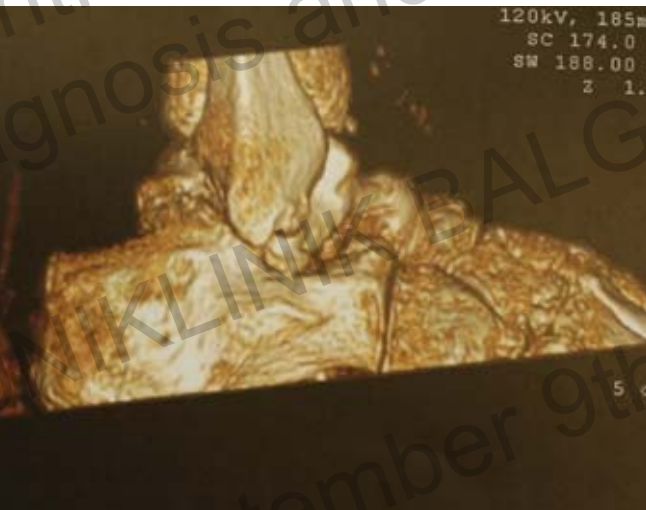
Infections

Lateral impingement

Malalignment

Sural neuralgia

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pseudarthrosis



Chahal J., Stephen DJ., et al J. Orthop. Trauma 2006

88 patients subtalar fusions

**smokers 3.8 times more
likely for pseudarthrosis**

diabetes patients 18.7 times more likely

**Easley ME, Trnka HJ, Schon LC, Myerson MS
JBJS AM. 2000**

184 isolated subtalar fusions

84 % overall union rate

- (92% nonsmokers, 73 % smokers)

96% in primary nonsmokers

Complications:

- prominent hardware 20%
- lateral impingement 10%
- malalignment and infection 3% each



Haskell A., Pfeiff C., Mann R. Foot Ankle Int. 2004

101 isolated subtalar fusions

98 % overall union rate

smoking did not influence union rate



**Jovianiaux, Harisboure, Ohi, Dehoux.
Int Orthop. 2010**

Long-term results of an insitu subtalar arthrodesis

28 isolated subtalar fusions

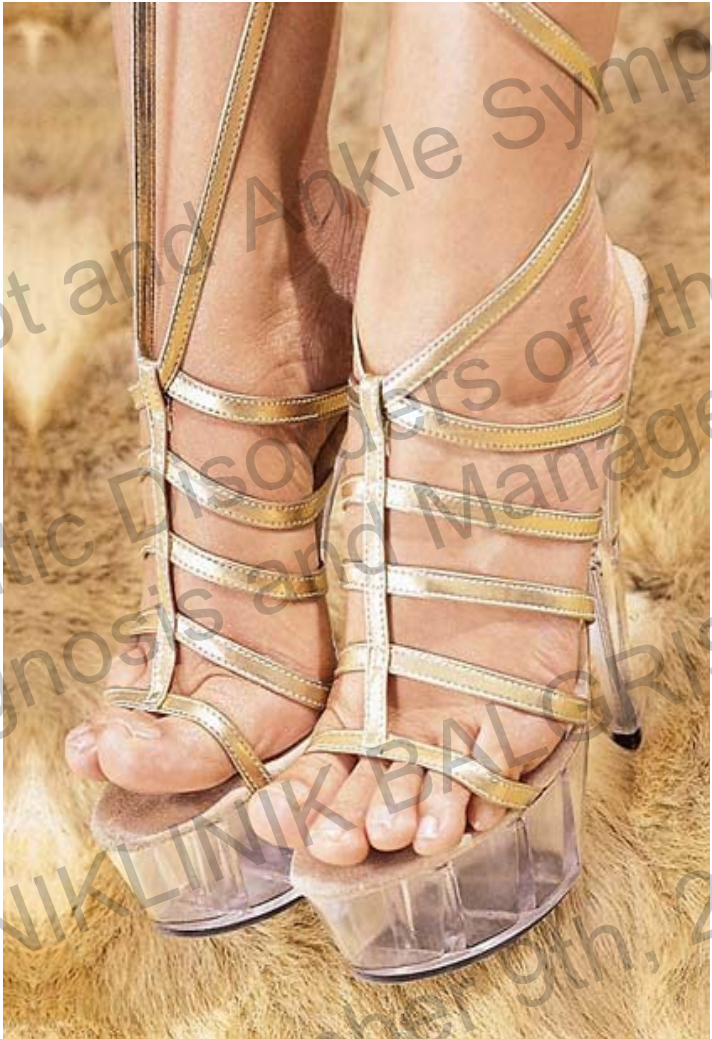
56 months FU (20 – 115)

100 % overall union rate

mild arthritic changes in adjacent joints

– not symptomatic

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THANK YOU

