Ankle Arthrodesis through a Modified Scranton Method

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NO CONFLICT TO DISCLOSE

< Ankle Arthrodesis through a Modified Scranton Method >

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My disclosure is in the Final AOFAS Mobile App.

I have no potential conflicts with this presentation.
Ankle arthrodesis is a very useful method of treatment for ankle disorders with limited ROM.

There are many reports depending on various approaches and ways of fixation.

**<Scranton method>**

- Resection of anterior 2/3 of medial malleolus
- Bone graft from resected bone

*(Scranton PE, et al, JBJS Am, 1985)*
In this study we report ankle arthrodesis through a modified Scranton method.

Our Modified Scranton method:

- No fibula osteotomy
- One cannulated screw
- Locking plate (for humerus) fixation
# Patients

## 27 ankles

- **Age**: 63.2 y.o. (45-82)
- **Follow up**: 20.6 mos. (3-36 mos.)
- **Etiology**:
  - Osteoarthritis: 16 ankles
  - Paralytic foot: 6 ankles
  - The others: 4 ankles
- **Implant**:
  - NCB plate®: 9 ankles
  - Mode plate® +Acutrack plus®: 18 ankles
- **Additional procedure**:
  - Fibula osteotomy: 7 ankles
  - Achilles tendon lengthening: 2 ankles
1. Resection of ant. 2/3 of medial malleolus

2. Separation of cancellous and cortical bone, which is used for bone graft

3. Spread of ankle joint

4. Curettage of residual cartilage till exposing subchondral bone

5. Multiple drilling to pass into medullary canal
6. Temporary fixation with K-wire and cancellus bone grafting, then fix with a cannulated screw.

7. Cortical bone grafting.

8. Fixation with locking plate for humerus.

9. Suture of deltoid ligament to the plate.

10. Repair of the periosteum.
Result

<Operation time>
Ave. 193 min. (150-294)

<JSSF ankle and hindfoot score>
39 → 86

<Complications>
Implant failure due to falling down → Re-fixation

Final bone union 27/27
Case 1

1. pre-op.
2. op.
3. post op. X-p
4. 2mos. after op.
5. 9mos. after op.

Achilles tendon lengthening
Resection of ant. 2/3 of medial malleolus
Fixation with cannulated screw and locking plate

Bone union is appearing around compression screw.
<Advantage of Original Scranton method>

- Good view of tarocrural joint
- No need of bone grafting
- Preservation of medial and lateral malleolus, which lead to good cosmetic appearance
Discussion

<Advantage of Our Modified Scranton method>

- One cannulated screw
- Locking plate (for humerus) fixation
- No fibula osteotomy
- Solid fixation
- Compression of arthrodesis site
- Easy plating
- Minimum shortening
- Preservation of lateral wall
- Solid fixation
- Early postoperative care
We introduced our modified Scranton method of ankle arthrodesis.

This method could become one of the useful method of ankle arthrodesis.

References