

# "Tibiotalar arthrodesis - Is union rate and time to union influenced by preoperative deformity, patient related factors or open/arthroscopic procedure and what do patients perceive?"

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## Introduction:

- Tibiotalar arthrodesis is the gold-standard treatment for end stage arthritis of the ankle joint.
- Traditionally, open techniques have been used but Arthroscopic Ankle Arthrodesis(AAA) has been reported to have equivalent fusion rates as open procedures with less complications.
- We present a comparative analysis of both techniques in terms of deformity correction, union rates, time to union, patient reported outcome measures (PROMS) including patient satisfaction with this procedure.

## Methodology:

- One hundred and twenty four Ankle Arthrodesis (AAA-97;OAA27) January 2005 and December 2015.
- Data was collected on patient demographics, pre-op deformity, lifestyle risk factors.
- Based on pre-operative deformity, patients were divided into 2 groups( A<15 degrees and B≥15degrees).
- Patient reported outcome measures were also included for both groups using Johnson's Satisfaction scale, Euro-Qol 5D and MoxFQ.

## Deformity; mean values

	OAA (n= 27)	AAA (n=97)
Age at time of surgery (yrs)	56.9 (SD-11.5)	62.4 (SD- 10.6)
Coronal plane alignment	11.2 deg ( 41 deg valgus - 28 deg varus)	6.8 deg ( 28 deg valgus - 26 deg varus)
Sagittal plane alignment	108	105

## Comparison of union rates OAA vs AAA

	Group A	Group B	P value
<b>Union rate (%)</b>			
OAA	100	67	0.3
AAA	92	100	0.6
<b>Time to union (wks)</b>			
OAA	12.8 (6-26)	10.1 (7-14)	0.4
AAA	12.9 (6-44)	12.9 (6-18)	0.3

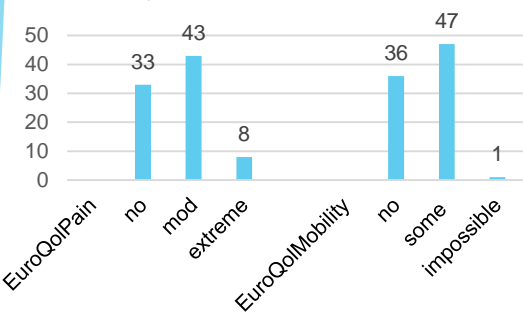
## Results:

Both OAA (89%)and AAA (93%) have good union rates. Larger deformity did not adversely affect union rates in AAA. Time to union was higher in AAA (13.7 vs 12.5 weeks) but this was not statically significant p=0.3.

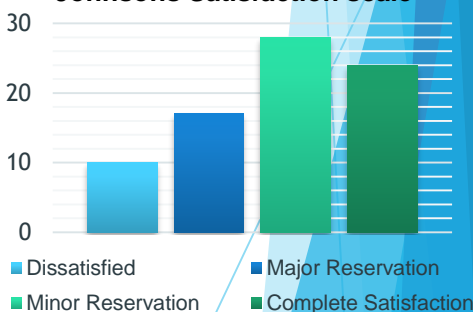
## PROMS

- MOXFQ index score: 36.91** – 89 patients
- Johnsons Satisfaction scale:** 30% (24) Complete satisfaction with the procedure, 35% (28) had only minor reservations.
- EuroQol outcomes for pain and mobility:** 39% and 43% respectively.

### EuroQol Outcomes



### Johnsons Satisfaction scale



## Conclusions:

- Both OAA and AAA have good union rates
- Larger deformity did not adversely affect union rates in AAA
- Patient satisfaction score were high in all PROMS recorded.
- Life style risk factors did not have a cumulative effect on union.
- AAA is a reproducible method of treating end stage arthritis of tibiotalar joint irrespective of preoperative deformity and patient related factors.