Intra-operative imaging for Total Ankle Replacement (TAR). Is it necessary?

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My disclosure is in the Final AOFAS Mobile App.
I have no potential conflicts with this presentation.
Introduction:

- We use intra-operative imaging for Total ankle replacements (TAR) since 2009 to check for component alignment.
- Before this period no such assessment was performed.
- The aim of the study was to compare the clinical outcomes and radiographic parameters in patients with or without imaging assessment at the time of surgery.
Method

• We identified the patients from the Freeman joint registry with TAR operated between 2007 -2010 and established if intra-operative imaging was used.

• Two groups based on
  • use of intra-operative imaging (Group A)
  • non-imaging (Group B).
Method

- Patient demographics, clinical (AOFAS) scores.

- Radiographic assessment between the groups with measurement of the component alignment in A-P and lateral view on a long leg standard weight bearing radiographs pre-operatively and at 1 year follow up.

- The anterior distal tibial angle (ADTA), lateral distal tibial angle (LDTA) and the tibial-talar angle were measured in the coronal plane on digital radiographs.
A) The lateral distal tibial angle (LDTA)

B) The anterior distal tibial angle (ADTA).

C) The tibial-talar angle
Lateral distal tibial angle (LDTA)

Anterior distal tibial angle (ADTA)
Tibial-talar angle
Results

- 17 patients (Group A) and 16 patients (Group B).
- Mean age was 61 years in both the groups.
- For Image group, there was a significant difference in LDTA, Tibio-Talar and AOFAS scores (p<0.05).
Results

• In the non-image group, the change in ADTA, Tibio-Talar and AOFAS scores was significant (p<0.05).

• There was however no significant difference between LDTA, ADTA, Tibio-talar and AOFAS between Groups (p>0.05).
Conclusion

- Use of intra-operative imaging offered no benefit with respect to any significant change in the AOFAS and radiographic outcomes.

- We would recommend that intra-operative imaging be only used where there is a clinical indication to do so.
References

- Bonasia DE, Dettoni F, Femino JE, Total Ankle replacement: Why, When And how? The Iowa Orthopaedic Journal, 30(120-129)