The function of lateral radiographs in the judgment of ankle fractures reduction

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Disclosure

I have received no financial gain pertinent to the prepared ePoster.
Introduction

Many documented reduction criteria were reported to judge the ankle anteroposterior and mortise radiographs.
Lateral view
• We observed some alignment deviation on lateral radiographs without obvious displacement on the anteroposterior radiographs in our clinical cases.

• We collect precise measurements (x and d) on lateral radiographs of ankle malalignment and reassess the x and d after the reconstructive surgery.
Methods

• 24 post-traumatic ankle lateral radiographs malalignment were reviewed.
• All the radiographs from each patient were digitally achieved through the Picture Archiving Communication System (PACS)
Methods

• On lateral radiographs, the distance from the center of talar rotation to the longitudinal axis of the tibia (x) and displacement from the center of talar articular surface to the center of tibial articular surface (d) were assessed.

• Design the schematic diagram using the CAD software
Results

• The preoperative x was 10.1 ± 2.1mm as compared to a last follow-up value of 2.2 ± 0.3mm ($P < .01$).
• The mean preoperative and last follow-up d was 4.5 ± 0.9 and 2.2 ± 0.5mm, respectively ($P < .01$)
• When d was equal to 4 mm, all the observers were able to tell the articular surfaces are not parallel
Case 1

Preoperative mortise view

Lateral View

Female, 43y
Postoperative mortise view   Lateral View
Conclusion

• Lateral radiographs of the ankle can help to judge ankle fractures reduction. Once observe the ankle lateral articular surfaces are not parallel, doctors may need to reassess the ankle joint reduction.
References


