

## Peer Review File

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### Reviewer A

Comment 1: This review deals narratively with a relevant topic in orthopedics, namely total ankle replacements, and still controversial from the point of view of patient benefit. However, it seems that similar studies already exist in the literature. Although, the topic covered is clear, there are still many papers missing from the list reported by the authors, which makes this review at present not fully comprehensive. Important working groups seem to be apparently absent, and more information on tri-component prostheses with mobile bearing or customized approaches should be mentioned.

Reply 1: Thank you for your comment. We have included a description and discussion of the HINTEGRA total ankle replacement, a mobile-bearing tri-component prosthesis, within the third generation of total ankles. Citation include European working group studies as well.

### Reviewer B

The topic is very interesting and modern and the manuscript very well written. I have just few comments:

Comment 1: Line 103: check for typo at the end of the sentence

Reply 1: Thank you for pointing this out. The typo has been fixed as advised (see Page 6, Line 103)

Changes in text: “Moreover, surgeons had greater appreciation for mechanical alignment and balancing the ankle with additional bony and soft tissue procedures to ensure a stable ankle and foot around the replacement.”

Comment 2: Line 226: I suggest to cite also weight bearing CT scan as a imaging tool. Some studies have already been published about its reliability.

Reply 2: Thank you for the suggestion. As advised, weight bearing CT has been included as an imaging modality for presurgical planning (see Page 11, Line 226-227)

Comment 3: Line 255: in a study published on JBJS, authors suggested to use only screw-fixation for lateral TAR to minimize fibular osteotomy complications (10.2106/JBJS.19.00307)

Reply 3: We have revised the sentence to include both plate and screw fixation as options for fibular fixation following osteotomy (see Page 13, Line 255).

Changes in text: “After TAR implantation, the fibula is anatomically reduced and fixed using a screw or plate, and the anterior talofibular ligament is repaired”

Comment 4: table 2: I suggest to add midfoot fusion as possible accessory procedure for varus deformity

Reply 4: Midfoot fusion procedures have been added as possible accessory procedures for varus deformity (See Page 40, Line 840-841).

Comment 5: Table 3: for Zimmer implants, the paper cited as number 27 reported outcomes on bigger population and with longer follow-up than the papers listed in the table. I suggest to include it.

Reply 5: Thank you for the suggestion, we have included the Maccario paper for Zimmer implant outcomes in Table 3 as advised (See Page 40, Line 842-843).