Most importantly, no signs of a newly developing AVN or progression of a pre-existing partial AVN have been observed. At a mean period of 3.9 (1 – 8) years after reconstruction 15 of 18 patients (83%) were very content with the result. One patient required ankle fusion 7.5 years after reconstruction, another patient needed talo-navicular fusion after 5 years and a third one required a two-stage fusion of the ankle and the subtalar joint within 18 months after reconstruction. The mean AOFAS ankle hindfoot score increased from 36 to 88 [11]. Similar results have been reported meanwhile from a group in Shanghai, China with 17 patients followed up for 14 months. All patients went on to solid union and no infections were seen [9].

Secondary reconstruction of malunions or nonunions after talar fractures or fracture-dislocations allow almost complete functional rehabilitation in selected active and compliant patients without symptomatic arthritis, no or partial AVN (less than one third of the talar body), and no infection. There appears to be no increased risk of development or progression of AVN. Progression of arthritis may lead to the necessity of secondary fusion – as with primary ORIF of talar fractures.

References

The Role of the Fibula in Distal Tibial Varus and Valgus: A Biomechanical Study

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It has been suggested that supramalleolar osteotomies can normalize the load distribution in the ankle joint. Due to the lack of biomechanical data, recommendations remain arbitrary. The purpose of this biomechanical study was to determine the effect of induced supramalleolar varus and valgus alignment on the tibiotalar joint pressure, in order to explain a possible predisposition to the development of osteoarthritis and determine the rationale behind corrective osteotomy treatment. In this study we quantify the changes of pressure and force transfer across the ankle joint for various amounts of varus and valgus deformity in the supramalleolar area. We assumed that a supramalleolar osteotomy creating a hindfoot varus would result in medial overload of the tibiotalar joint. Likewise we thought that creating a supramalleolar valgus would lead to a pressure shift towards lateral in the tibiotalar joint. The opposite was observed. The restricting role of the fibula was revealed by an osteotomy directly above the syndesmosis. Both in varus and in valgus end-stage ankle osteoarthritis, the role of the fibula should be taken into account and the fibula should be addressed where appropriate.