Worldwide, total ankle replacement is being offered more often as an alternative to ankle fusion. Most reports in the literature come from single centres with surgery performed by ‘high volume’ foot and ankle surgeons. We describe the New Zealand experience with the Scandinavian Total Ankle Replacement (STAR).

52 STARs in 49 patients were implanted between September 1998 and May 2005. Eleven surgeons performed between one and 13 of the operations. Of the 49 patients five were deceased and five refused to participate in the study. The average age at surgery was 64.9 years (range 46-80). There were 26 males and 13 females. The average follow up was 58.2 months. Of the 41 ankles available for review 11 had been revised or fused (27%) at an average of 42 months post surgery. Of the remaining 30 intact ankles recent radiographs were available on all ankles.

Of the retained primary ankles, the mean Oxford ankle score was 25.6. This scale has a range from 12, for an asymptomatic ankle, to 60. The mean WOMAC score was 18.9, the SF-12 PH 42 and the SF-12 MH 54. The scores were substantially worse for the group who had been revised or arthrodesed.

Perioperative x-ray findings demonstrated intraoperative malleolar fracture occurred in seven patients including one with a complete saw cut transection of the medial malleolus and one who had sustained fractures of both malleoli. The tibial component was undersized in five patients and the talus oversized in at least three patients.

Of the 11 revision cases, two were bearing exchanges only. Nine involved either a major revision procedure or tibiotalocalcaneal arthrodesis for subsidence of malaligned components usually in the presence of peri-implant fracture. Of the unrevised cases, the latest x-rays did not demonstrate any significant osteolysis or increased lucent lines. Five cases demonstrated subtle talar or tibial component subsidence when compared with earlier radiographs.

Despite overall satisfactory outcomes in the majority of patients the perioperative complication rate and revision rate in infrequent users is concerning. There may be implant and instrumentation elements, which also contribute to these suboptimal outcomes.

Level of evidence IV, retrospective review.