

EXPERT OPINION ON PUBLISHED ARTICLES

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Total ankle arthroplasty versus ankle arthrodesis

DI Pedowitz, JM Kane, GM Smith, HL Saffel,
C Comer, SM Raikin

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The discussion as to which patients would benefit more from ankle arthrodesis and which from ankle arthroplasty continues and is not resolved.

These discussions consist mainly of people's opinions and quoting of some articles with very few scientific surveys.

This current article is a very good article comparing the biomechanical changes in the forefoot between the two procedures. The authors looked at the range of movement of the foot relative to the lower leg and from this extrapolated movement at the talo-navicular joint.

What comes out very clearly in the article is that the movement at the talo-navicular joint is greatly increased in patients with an arthrodesis of the ankle with the mean movement in these patients of 22°. This is far more than the 10.5° movement in the arthroplasty group.

This excessive movement after an arthrodesis is probably a significant contributing factor to patients developing secondary osteoarthritis in the lesser foot joints after an ankle arthrodesis.

The patients were also assessed with regard to their subjective feelings about the results and both procedures. These assessments show that the patients perceive being better after both operations but the improvement after the arthroplasty group is more than in the arthrodesis group.

This article, in my opinion, is a significant contribution to our understanding of the role and position of arthroplasty with regard to degenerative joint disease of the ankle.

Inflammatory cytokines and matrix metalloproteinases in the synovial fluid after intra-articular ankle fracture

Samuel B Adams *et al.*

Foot & Ankle International, November 2015;36:1264

Intra-articular fractures are the greatest cause of ankle arthritis and the injury is usually an intra-articular fracture.

Obviously treatment initially should have consisted of the best possible anatomical reduction but in spite of this there is a nearly 20% incidence of significant degenerative arthritis. The cause of this has, to date, never been clearly understood.

The authors set out to investigate whether early inflammatory response could be the cause of the problem.

The study was done on 21 patients. All the patients had a normal contralateral joint. There was no history of prior trauma in either ankle.

The ankles were aspirated and lavage was performed. Blood was also collected.

The article clearly sets out all the different early precursors of inflammatory response that were tested in the aspirate from both ankles. It records that 12 of the 18 measurements were increased in the fluid from the fractured ankle.

The authors feel that this gives some indication of why the joints degenerate and also gives a possible route for further research to decrease the acute intra-articular inflammation via antagonists to the pro-inflammatory and denegation mediators.

This is an important article indicating a specific breakthrough with regard to a vexing problem.

This article received the J Leonard Golder Award at the 2015 Annual Meeting of the American Orthopaedic Foot & Ankle Society, giving some indication of how highly it was regarded.

Long-term follow-up of dorsal wedge osteotomy for paediatric Freiberg disease

Bruno S Pereira *et al.*

Foot & Ankle International, January 2016, page 90

The dorsal wedge osteotomy for Freiberg's disease in paediatric patients was initially described in 1979 by Gauthier and Elbaz and has shown good results.

The question that always arose is what the long-term results of this procedure would be.

This article is a retrospective view of 23 patients who were diagnosed with Freiberg disease and treated operatively by the technique of a dorsal osteotomy as described by Gauthier *et al.* between January 1982 and January 1999.

Twenty of the 23 original patients were contacted. The mean age

at the time of surgery was 15.2 years and the internal fixation used in those days was a figure-of-eight stainless steel wire loop. The patients suffered no significant complications and no non-unions. The AOFS score at the last follow-up was 96.8. Eighty per cent of patients reported an excellent result and 20% a good result.

These are excellent results in patients with a mean follow-up of 23.4 years and with a very high final AOFS score.

This type of follow-up is not often published and the article, therefore, is an important one proving that the long-term results of this treatment are good.

Reviewer: Prof AJF Robertson

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(Apologies for attributing this opinion to the incorrect author in the Winter 2016 edition of this journal)

Long-term patient-reported outcome after fractures of the clavicle in patients aged 10 to 18 years

PH Randsborg, HF Fuglesang, JH Rotterud, OL Hammer, EA Sivertsen

Journal of Pediatric Orthopaedics 2014;**34**(4):393-99

An increasing trend to treat clavicle fractures in adolescents by open reduction and internal fixation has recently been documented in the literature.¹ This probably follows reports that advocate the operative treatment of certain middle third clavicle fractures in adults.² In keeping with these trends, I am sometimes asked what my approach is to clavicle fractures in older children and adolescents. The article under review is the most recent outcome study in this respect and has offered some insight.

As the title suggests, the purpose of the study was to determine the long-term outcome after a clavicle fracture in older children and adolescents. The study has merit in that it was a patient-reported outcome study. The authors conducted a retrospective review of 185 patients aged 10 to 18 years (median age 14.4 years) treated at their institution with an isolated clavicle fracture. Thirteen had lateral fractures and 172 had midshaft fractures.

Outcomes were assessed using the Oxford Shoulder score (OSS), the Quick version of the Disability of Arm, Shoulder and Hand questionnaire (Quick-DASH score) and a Visual Analog score for pain, cosmesis and overall satisfaction. Of the midshaft fractures, 122 patients (70.9%) responded to the questionnaires. Of the lateral fractures, 8 patients (61.5%) responded to the questionnaires. The mean age of the respondents was 18.7 years and this was at an average of 4.7 years after injury.

Sixty-five midshaft fractures were displaced. Nine of these displaced midshaft fractures were treated surgically. Seven were operated on as primary treatment; however, the actual indication for surgery in these cases was not stated. An additional patient was operated at 23 days for increasing pain and displacement, and another because of symptomatic non-union at 163 days. The nine operated fractures did not have any difference in terms of initial shortening, displacement or angulation compared to the non-operative group. Of the nine operated patients, six had local irritation which prompted plate removal. One had a disfiguring scar and one complained of decreased sensation distal to the incision.

No patient with a lateral fracture was treated surgically. Of the lateral fracture group of patients at follow-up, one complained of general shoulder discomfort and one of pain while carrying a backpack.

With respect to the overall patient-reported outcomes, 95 per cent of the respondents with conservatively managed

fractures reported good to excellent outcomes on both the OSS and Quick-DASH score. However, in the group of midshaft fractures managed non-operatively, shortening of the fracture had a small but statistically significant negative effect on the OSS, cosmetic and overall satisfaction scores. The degree of angulation and displacement had no effect on the outcome scores in this group.

The authors' opinion was that the overall functional result after non-operatively treated clavicle fractures was good to excellent for most patients. The inferior result associated with shortening was small and most likely of limited clinical significance. The authors also note that non-union of the clavicle at this age is very rare and therefore cannot be used as an argument to justify operative treatment.

The level of evidence in this study is low, with a high rate of non-responders. The number of operative cases was too small to provide an acceptable comparative group. However, the results support earlier literature^{3,4} with regards to good functional outcomes of non-operatively treated clavicle fractures in children and adolescents.

We must take cognisance of the available literature, and it is for this reason that I continue to advocate non-operative management as the mainstay of treatment in this age group. I support the authors' recommendation to reserve operative treatment for fractures with absolute indications such as threatened skin integrity, open fractures or associated neurovascular injuries. Whether other selected cases will benefit from operative treatment still needs to be defined.

References

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