



FASt 2023

Stirling Court Hotel

29th September 2023





Dear Delegate

It is my great pleasure to welcome you to **FASt 2023** at Stirling Court Hotel within the beautiful grounds of The University of Stirling. Once again, we have arranged the meeting based upon feedback received and have tried to create a balanced programme in keeping with the multidisciplinary values of the society. This year though, all talks will be delivered live and in the room to allow more valuable discussion around the topics presented.

I am honoured and delighted to be able to welcome among our faculty this year, Mr Rick Brown who is the current president of the British Orthopaedic Foot and Ankle Society who has travelled to the meeting from Oxford. This is a very welcome return to the tradition of having the BOFAS president attend our meeting.

I was very impressed with the response, both in terms of number and quality of the free paper abstracts submitted both by junior doctors and AHPs and as a result made the decision to introduce a runner up prize as well as increasing the value of the first prize.

I do hope that you enjoy the meeting and find the programme both educational and enjoyable.

Best Wishes

James Beastall

FASt Chair



FAST Meeting Programme

Stirling Court Hotel – Friday 29th September 2023

Registration – 9:00 - 9:25

Welcome and Introduction

9:25 – 9:30 James Beastall – FAST Chair

Session 1 Chair: Mr John McKinley

09:30 – 09:50 The Clinical Management of Plantar Heel Pain – **Mr Alastair Dall**

09:50 – 10:10 Plantar Fascia Surgery – Is There a Role? - **Mr Perri Nunag**

10:10 – 10:30 The Conservative Management of Plantar Fibromatosis – **Ms Laura Barr**

10:30 – 10:50 Discussion

10:50 – 11:20 Coffee and Industry stands

Session 2 Chair: Mr Senthil Kumar

11:20 – 11:40 Frames in Pilon Fractures: When, Why and a Review of Outcomes– **Mr Bilal Jamal**

11:40 – 12:00 Recognising a Melanoma – What Podiatry Can Offer – **Mr Michael Gates**

12:00 – 12:30 The Oxford Approach to Foot and Ankle Tumours - **Mr Rick Brown**

12:30 – 12:45 Discussion

12:45 – 13:45 Lunch and industry stands

Session 3 - Free Papers Chair: Mr Sam Roberts

13:45 – 15:00 See programme below

Session 4 Foot and Ankle Trauma Topics – Chair: Mr Sriskandarasa Senthilkumaran

15:00 – 15:20 Fixing Calcaneal Fractures: Sinus Tarsi vs Extensile Lateral Approach – **Mr Anish Amin**

15:20 – 15:40 Rehab of Complex Ankle Fractures – **Ms Gill Stewart**

15:40 – 15:50 Discussion

15:50 – 16:00 Prizes and Meeting Close

16:00 – 17:00 AGM / Regional Ankle Replacement Networks – **Mr Phil Walmsley**



Speakers and Session Chairs

Mr Anish Amin	Consultant Orthopaedic Surgeon, Royal Infirmary of Edinburgh
Ms Laura Barr	Advanced Orthotic Practitioner, NHS Greater Glasgow and Clyde
Mr James Beastall	Consultant Orthopaedic Surgeon, Raigmore Hospital, Inverness FASt Chair
Mr Rick Brown	Consultant Orthopaedic Surgeon, Oxford President British Orthopaedic Foot and Ankle Society
Mr Alastair Dall	MSK / Sports Podiatrist, Director, Footcare Scotland
Mr Michael Gates	Lead Podiatrist, NHS Highland
Mr Bilal Jamal	Consultant Orthopaedic Surgeon, Queen Elizabeth University Hospital, Glasgow
Mr Senthil Kumar	Consultant Orthopaedic Surgeon, Glasgow Royal Infirmary
Mr John McKinley	Consultant Orthopaedic Surgeon, Royal Infirmary Edinburgh
Mr Perri Nunag	Consultant Orthopaedic Surgeon, Raigmore Hospital, Inverness
Mr Sam Roberts	Consultant Orthopaedic Surgeon, Aberdeen University Hospitals FASt Vice Chair
Mr Senthil Senthilkumaran	Consultant Orthopaedic Surgeon, Aberdeen University Hospitals
Ms Gill Stewart	MSK Physio Team Lead, Royal Infirmary of Edinburgh
Mr Phil Walmsley	Consultant Orthopaedic Surgeon, NHS Fife Chair Scottish Arthroplasty Project

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Free Paper Session

- 13:30 – 13:35 A systematised literature review exploring factors of patient satisfaction following foot and ankle surgery in adult populations
- 13:35 – 13:40 Safety, efficacy and patient acceptability of surgeon administered ankle blocks for day case forefoot surgery
- 13:40 – 13:45 Preoperative Anxiety And Depression Are Associated With Poorer Patient-Reported Outcome Following Total Ankle Replacements
- 13:45 – 13:55 Discussion**
- 13:55 – 14:00 Comparative study between arthroereisis versus combined arthroereisis with medial displacement calcaneal osteotomy for the management of flexible flat feet
- 14:00 – 14:05 Outcomes and Complications of Midfoot Arthrodesis in a Cohort of 108 Patients
- 14:05 – 14:10 Increased Activity Levels Following Total Ankle Replacement Results in Significantly Improved MOXFQ Scores
- 14:10 – 14:20 Discussion**
- 14:20 – 14:25 Ankle syndesmotic fixation using suture buttons versus screws – a review of surgical outcomes and complication rates
- 14:25 – 14:30 Avulsion Fractures of the Os Calcis – does the type of fixation make a difference?
- 14:30-14:35 The ‘Phantom Kick’ – A Potential Screening Tool in the Diagnosis of Achilles Tendon Ruptures
- 14:35 – 14:45 Discussion**

A systematised literature review exploring factors of patient satisfaction following foot and ankle surgery in adult populations

Louise Fisher, Clare McFeely – Dept of Podiatry, Dr Gray's Hospital, Elgin and University of Glasgow

Introduction

Few authors have investigated satisfaction in foot and ankle surgery and with orthopaedic waiting times continuing to soar following Covid-19 pandemic there are consequential effects for the patients in waiting and wider societal costs. This research aims to explore and identify factors influencing patient satisfaction following foot and ankle surgery.

Methods

A systematised literature search of the following databases; CINAHL, Embase, Medline and PsycINFO was conducted on 4th March 2023 using the modified PEO framework. Adult populations (>18 years old), elective foot and ankle surgery and all studies types with a primary focus on investigating patient satisfaction were eligible for inclusion. The PRISMA framework was used in the study selection process. Nine quantitative studies were included in this review. Critical appraisal was conducted using JBI tools and a narrative evidence synthesis has been presented.

Results

There is fair-moderate level evidence exploring a range of factors which can be influenced throughout all stages of the surgical journey. Patient characteristics, pre-surgical expectations, post-surgical complications and appearance are influencing factors of satisfaction following foot and ankle surgery. To date, existing literature has predominately explored patient- specific factors in relation to satisfaction.

Conclusion

Expectations and fulfilment of expectations, interlaced with social determinants of health are factors found to influence satisfaction. Professional and system factors require further exploration which include health literacy, health provider roles, communication, and the overall patient experience. Qualitative research is required to expose and more fully explore factors influencing patient satisfaction following foot and ankle surgery.

Safety, efficacy and patient acceptability of surgeon administered ankle blocks for day case forefoot surgery.

T.Ha, E.Hailemeskel, C. Senthil Kumar

Dept. of Orthopaedics, Glasgow Royal Infirmary

Aim

We had previously reported on the safety and efficacy of forefoot surgery done entirely under ankle block anaesthesia, administered by the anaesthetists. With increasing demands on the anaesthetic services in our unit, we are doing the blocks ourselves and also performing the surgery. We report on a series of such procedures looking at the safety and patient acceptability.

Methods

This was a prospective study, all patients who underwent forefoot surgery between November 2019 and November 2020 were given the option of having their operation done under surgeon administered anaesthesia only. Appropriate informed consent was obtained. All blocks were administered by the senior author (CSK). Patients were discharged home with suitable analgesia and were encouraged to seek further analgesia as required from their GP or the local Emergency Department. At their first postoperative clinic visit at 10 days, they were asked to fill out a questionnaire detailing their experience and the need for additional pain killers in the postoperative period. Any adverse events noted intraoperatively were also recorded.

Results

A total of 24, mostly forefoot procedures were carried out in 24 patients. There was no failure of blocks. 19 patients took only the analgesics given to them from the hospital, whilst 2 did not and 2 were not prescribed any additional analgesia post-operatively. Only 1 patient had an unanticipated visit to their GP for pain control issues. 22 out of the 24 patients said they would undergo the same procedure again and the same number would recommend this technique to a family member or friend. There were no recorded adverse events peri-operatively.

Conclusion

Forefoot surgery done under ankle block anaesthesia administered by the surgeon without the involvement of an anaesthetist is safe and effective and has a high patient satisfaction. This technique has the potential to free up the anaesthetists for doing more complex patients with associated comorbidities.

Preoperative Anxiety And Depression Are Associated With Poorer Patient-Reported Outcome Following Total Ankle Replacements

PY Wong, JM Leow, H Shalaby, J Mckinley
Royal Infirmary of Edinburgh, Little France Crescent, EH16 4SA

Introduction

Patients with pre-operative anxiety/depression have been shown to have inferior patient reported outcome measures (PROMs) in total hip and knee arthroplasty. There is some evidence to show that patients with anxiety/depression have inferior SF36, AOFAS and VAS scores following total ankle replacements (TAR). However, these outcomes are not validated for ankle surgery. The aim of this study is to investigate the effect of anxiety/depression on PROMs using the Manchester-Oxford Foot Questionnaire (MOXFQ) following TAR.

Methods

This is a retrospectively reviewed cohort study using prospectively collected PROMs data from a single centre. Data collection included patients who underwent primary TAR between 2012 and 2023. Anxiety/depression was assessed using the EQ-5D-3L. MOXFQ was used to assess outcome after TAR. Questionnaires were completed by patients pre-operatively and at least 1-year post-operatively. Patients with moderate and extreme anxiety/depression on EQ-5D-3L were grouped for analysis. MOXFQ between patients with and without anxiety/depression were compared using two-tailed T-test with significance taken at $p < 0.05$.

Results

113 primary TARs from 110 patients were available for analysis. Mean follow-up time was 3.0 years (SD 2.5). Pre-operatively, 78 (69.0%) patients reported no anxiety/depression, 31 (27.4%) reported moderate anxiety/depression and 4 (3.5%) reported extreme anxiety/depression. There is significant difference between pre-operative MOXFQ scores for patients with and without anxiety/depression (84.2 ± 12.9 vs 71.7 ± 13.2 respectively, $p < 0.001$). This significance persisted in post-operative MOXFQ scores (patients with anxiety/depression = 42.0 ± 31.1 , patients without anxiety/depression = 23.3 ± 23.8 ; $p = 0.001$). The improvement in MOXFQ before and after TAR was significant for both groups at $p < 0.001$. However, there were no significant difference between the two groups ($p = 0.249$) when considering the degree of change from pre- to post-operative MOXFQ scores.

Conclusion

This study is the first study assessing the effect of anxiety/depression on an ankle surgery-specific PROM after primary TAR in a UK-based population. Our results agree with previous literature in suggesting that PROMs are modulated by baseline mental health state in TAR patients. However, we found that patients in both groups report similar improvement in PROMs after TAR, and this information should be used when counselling patients pre-operatively.

Comparative study between arthroereisis versus combined arthroereisis with medial displacement calcaneal osteotomy for the management of flexible flat feet

Ahmed S. Elhalawany, Abo Bakr Zein, A. Kholeif

Raigmore Hospital, Inverness

Background

Management of flatfoot is still a challenge for orthopaedic surgeons. With increasing interest in minimally invasive procedures and joint sparing techniques, arthroereisis has become widely accepted and popular. However, some aspects are still under question. The aim of this study is to evaluate the functional and radiological outcomes of subtalar arthroereisis (STA) alone in comparison to combined STA/Medial Displacement Calcaneal Osteotomy (MDCO) in the management of symptomatic flexible pes planus.

Methods

A single-centre, prospective comparative study included 46 feet (38 patients), 29 feet in the STA group (group A) & 27 feet in the combined STA/MDCO group (group B). The study was conducted from October 2018 to November 2022. Functionally, patients were assessed by AOFAS scores. Radiographic evaluation included AP talo-first metatarsal, AP talo-calcaneal angles, the talar coverage percentage, calcaneal inclination angle, lateral talo-1st metatarsal and lateral talo-calcaneal angle.

Results

Pre-operative and 2- year follow-up score and angles were compared between both groups. This study showed improvement in all parameters of correction including AOFAS score and all foot angles in both groups. No statistically significant difference could be detected between both groups. However, the data showed statistically significant difference in each group when comparing pre-operative and 2- year follow-up score and angles (P value < 0.05). Group B was superior in the power of correction in some parameters and showed statistically significant difference in the power of correction of calcaneal inclination angle, lateral talo-calcaneal angle and AP talo 1st metatarsal angles (P value < 0.05). The AOFAS score correlated positively with all the foot angles. The mean length of follow up period 29.22 ±4.77 months (range 24- 36 months). The most common complication was sinus tarsi pain, encountered in 6 feet (13.04%) and showed relatively lower rates in (group B) when combined with MDCO (4 vs 2).

Conclusions

The combination of arthroereisis with MDCO showed satisfactory radiographic and functional outcomes and can be a valid option in the management of flexible pes planus in older children and adults, especially in moderate and severe deformities. When considering STA, proper patient selection, assessment and counselling are necessary to tailor the correct procedures and consider adjunct procedure if needed for each patient. Authors recommend STA alone is preferred in mild and moderate deformities while the combined STA/MDCO is preferred in severe deformity due to relatively higher corrective power and possible contribution to decrease the stresses over the arthroereisis implant and subsequently sinus tarsi implant pain.

Outcomes and Complications of Midfoot Arthrodesis in a Cohort of 108 Patients

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Introduction

Midfoot arthritis is a chronic condition associated with pain, disability, and a negative impact on the activities of daily living. If conservative management is unsuccessful, patients are offered midfoot arthrodesis. Arthrodesis aims to realign and fuse the affected joints, providing patients with improved pain and function. Current research focusses on instructional review articles but neglects the measurement of patient reported outcomes. We present our results from a single hospital, with the largest cohort of patients reported to date. The primary aim was to investigate objective, and patient reported outcomes of midfoot arthrodesis. The secondary aim was to identify variables which may predict the development of nonunion.

Methods

An automated search of online patient records identified 108 eligible patients (117 feet). Demographic details, operative approach and post-operative outcomes were recorded. The rates of union, re-operations, and complications were calculated using radiographs and medical records. Logistic regression was used to model variables influencing the odds of non-union. All living patients were posted a Manchester Oxford Foot Questionnaire (MOx-FQ), a patient reported outcome assessment. Pre-operative MOx-FQ results were available in a minority of cases. Student's t-test was used to compare pre- and post-operative MOx-FQ scores.

Results

A total of 108 patients (117 feet) were identified. Successful union was achieved in 87/117 cases (74%). Further surgery was required in 41/117 cases (35%). The rate of complications was 16/117 (14%). Overall, MOx-FQ scores improved post-operatively by 19.25% ($p=0.002$), indicating improved patient reported outcomes. Bone grafts and staple fixation were identified as independently impacting the odds of non-union. Bone grafts decreased the odds of non-union (OR = 0.26, 0.01-0.72), whilst staple fixation increased the odds (OR = 4.88, 1.37-17.35).

Conclusion

This study is the largest to date, assessing the outcomes of midfoot arthrodesis. Although our patients reported improved clinical outcomes, the rate of union achieved was lower than in the literature. Potential explanations include different surgical techniques and a longer follow-up period in the current study. The rate of re-operations and complications was comparable to the literature. This study is the first to use the MOx-FQ for midfoot arthrodesis, establishing a baseline for improvements in patient reported outcomes. To decrease the odds of non-union, we recommend the use of bone grafts and the avoidance of fixation with staples

Increased Activity Levels Following Total Ankle Replacement Results in Significantly Improved MOXFQ Scores

R Kovacs, JM Leow, M Smith, H Shalaby, J Mckinley - Royal Infirmary of Edinburgh, Little France Crescent, EH164SA

Introduction

There is evidence to show an increase in activity levels and return to certain sports following total ankle replacements (TAR). However, there are limited studies investigating the rate of return to activity based on impact type. There are also no studies correlating the return to activity with an ankle-surgery-specific patient-reported outcome measure (PROM). The aim of this study is to investigate the effect of return to activity on PROMs following TAR.

Methods

Patient records were retrospectively reviewed from a single centre performing TARs between January 2014 and February 2023. Questionnaires were completed by patients pre-operatively and at a mean follow up of 46 ± 33 months post-operatively (range 3-134 months). Patients were assessed for pre-operative and post-operative participation in activities, and this was correlated with their pre- and post-operative MOXFQ scores.

Results

99 primary TARs implanted in 85 patients were available for analysis. The mean age was 72.4 ± 8.9 years (range 48-92). There were 55 males (65%) and 30 females (35%). Fifty-one (60%) patients were involved in any activity prior to TAR. 72.5% ($n=37$) returned to the same activity post-TAR, and 29.4% ($n=15$) reported an increase in participation of this activity following TAR. Thirty-four (40%) patients were not involved in any activity prior to TAR, of whom 52.9% ($n=18$) were able to participate in activity after TAR. The rate of return to activity was high in the low ($n=35$, 79.5%) and moderate ($n=8$, 80%) impact group, but there was a reduced ability to return to high-impact activity ($n=1$, 16.7%). The mean time to return to low or moderate impact activities was 24.2 weeks. MOXFQ scores for patients who increased, maintained, or decreased their level of activity participation after TAR were similar pre-operatively (69.9 ± 12.5 , 78.1 ± 15.4 and 75.0 ± 15.0 respectively, $p=0.06$). All groups showed a significant improvement between pre- and post-operative MOXFQ ($p<0.05$). However, the degree of improvement was significantly greater in the group who had an increased ability to participate in activity ($n=33$, 38.8%; 11.1 ± 13.1) compared to those with decreased ability ($n=19$, 22.3%; 34.7 ± 30.1) ($p<0.001$).

Discussion

This is the first study assessing the effect of return to activity on PROMs based on impact type. We have found a 41.5% and 61.5% increment in returning to low and moderate impact activity respectively and a 62.5% reduction in return to high-impact activity. Patients who had an increased level of activity participation post-TAR had superior MOXFQ scores.

Title: Ankle syndesmotic fixation using suture buttons versus screws – a review of surgical outcomes and complication rates

Authors: Kong. R, Silverwood. R, Butler. J, Hazarika. S

Introduction

Syndesmosis injuries have been reported in recent literature to occur in 13% of all ankle fractures and can present a surgical challenge with a potentially poorer outcome, since malreduction is associated with altered ankle joint kinematics. Favourable results have been reported for the suture button technique, but screw fixation remains the gold standard across many units.

Aim

This study compares syndesmotic screws with suture button fixation in ankle fracture surgery in a high volume West of Scotland trauma unit. Method: A cross-sectional, retrospective study looking at ankle fracture fixations was done at the Clyde Trauma Unit, Paisley. Relevant information was obtained via Bluespир, TrakCare and Portal for 457 ankle fracture patients between August 2019 and February 2022. Median age was 56 years (16- 97 years) and minimum follow up was 6 months. The digital patient archive system (PACS) was used for evaluating radiographs pre and post op. Patients were divided into a screw fixation or suture button group using the Arthrex Tightrope[®] for comparison.

Results

27.4% (124/457 patients) required syndesmotic fixation. Within the syndesmotic group 51% were SER and 49% were PER type injuries. The most common co morbidities were smoking (37%), diabetes mellitus (19%) and alcohol excess (16%). 70.2% (88 patients) underwent syndesmotic screw fixation and 29.8% (36 patients) had a suture button technique employed. In the syndesmotic screw group, there were 5 fixation failures associated with malreduction (5.7%), and 3 surgical site infections (3.4%). 15 patients underwent screw removal (17.2%) – 5/15 for screw breakage and metalwork migration, 5/15 for stiffness and pain and 5/15 planned. In the SB group, there was 1 fixation failure (2.8%) associated with malreduction and 1 infection (2.8%).

Conclusion

Overall, this study reports a higher than previously reported incidence of associated syndesmotic injury with ankle fractures and surgeons should have a high index of suspicion for these associated injuries. This study shows a lower rate of fixation failures and secondary operations in the suture button group when compared with the screw fixation group. SB syndesmotic stabilisation can be safely adopted by the general trauma surgeon and this study suggests more favourable surgical outcomes when compared with the gold standard fixation method. However, accurate syndesmotic reduction and fibular alignment is key regardless of the stabilisation technique used.

Avulsion fractures of the os calcis – does the type of fixation make a difference?

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Introduction

Avulsion fractures of the calcaneus are serious injuries with a high potential for complications. Although different fracture types have been described, there is no agreement on the best way to fix these fractures. A variety of internal fixation methods are used but none of them have been shown to be universally effective in all patients. We describe a hybrid screw and plate fixation which might offer increased stability in these difficult injuries.

Methods

All patients who underwent internal fixation of tuberosity avulsion fractures of the os calcis were studied, the details were retrieved from the departmental data base, and demographic details were recorded along with co-morbidities. Type of fixation, postoperative complications and need for further surgery were all recorded.

Results

There were a total of 29 fractures (17 males, 12 females) during the study period, by the time of surgery, 15 patients had developed skin damage (blisters, necrosis). 12 patients had a combination of cannulated screws and a small fragment plate for fixation whereas 17 had screw fixation only. 11 patients had postoperative wound healing issues, 6 of these had only delayed wound healing, 2 developed superficial infection which needed antibiotic treatment and 3 had deep infection and needed further surgery. A further 6 patients needed surgery for metalwork removal. There was one failure each in each group which required further surgery to revise the fixation.

Conclusion

The use of cannulated screws and plate appears to improve the outcome after these difficult fractures, the observed failure rate in our series is much lower than reported in other series. We routinely use a combination of plate and cannulated screws.

The 'Phantom Kick' – A Potential Screening Tool in the Diagnosis of Achilles Tendon Ruptures

Authors:

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Mr C Senthil Kumar, Glasgow Royal Infirmary, 84 Castle Street, Glasgow, G4 0SF

Introduction

There are several diagnostic tests available to aid in diagnosing Achilles tendon ruptures. Despite this, up to 25% of all Achilles tendon ruptures are misdiagnosed, leading to poor clinical outcomes (Gravlee et al). It is evident that a screening tool is needed to reduce the rate of misdiagnosis in Achilles tendon ruptures. It is believed that the 'phantom kick' could aid in diagnosing and excluding these injuries. This is when patients describe the injury as a 'blow to the leg, but nobody was there'.

This study aimed to assess the efficacy of the 'Phantom Kick' as a screening tool in diagnosing Achilles tendon ruptures.

Methods

This was a retrospective case control study of patients that attended the Glasgow Royal Infirmary Emergency Department with lower limb injuries in 2020 and 2021. Three groups of patients were collected: Achilles tendon ruptures, soft tissue knee injuries and ankle sprains.

Eligible patients were contacted via telephone to complete a short questionnaire. One question asked patients to select what sensation they experienced following the injury, with the 'Phantom Kick' symptom being one of the options.

The sensitivity and specificity of the 'Phantom Kick' and the odds of selecting this clinical sign were then calculated in relation to Achilles tendon ruptures.

Results

Approximately 90 patients in each group were contacted to complete the questionnaire. The response rate for each group ranged from 43% to 51%.

The sensitivity value calculated was 75% (95% Confidence Interval: 62-88%). The specificity value calculated was 94% (95% Confidence Interval: 89-99%) respectively. The odds of selecting the 'Phantom Kick' option were 45 times greater in patients with Achilles tendon ruptures compared to patients with soft tissue knee injuries and ankle sprains ($p < 0.001$).

Conclusions

The 'Phantom Kick' appears to be an effective screening tool in aiding the diagnosis of Achilles tendon ruptures. It is simple, easy to implement and has a high specificity score comparable to other diagnostic tests for Achilles tendon ruptures. However, further research is required to evaluate the true efficacy of the 'Phantom Kick' as a screening tool.