

P1

Evaluation of patient-led post-operative wound self-care following foot surgery

K. Dash¹, V. Gupta², A. Hopkins¹, K. Shah³

¹Golden Jubilee Hospital, Glasgow, United Kingdom, ²The High School of Glasgow, Glasgow, United Kingdom,

³Golden Jubilee Hospital, Trauma & Orthopaedics, Glasgow, United Kingdom

Introduction: In line with the Scottish government's healthcare vision 2020 with a focus on supported self-management, our study was focussed on post-operative wound care at around two weeks after elective forefoot surgery. This normally involves a change of dressing at the health centre or a home visit by a district nurse. We wanted to offer patients the option of changing their own dressings at home in straight-forward forefoot surgery (bunion, MTP fusion) and avoid additional healthcare appointments.

Methods: We recruited 50 patients prospectively between February-June 2017. Each patient who consented to take part in the study was educated by the involved clinician in the aspects of wound-care, with written instructions and a helpline number. Subcuticular dissolvable stitches were used in all patients. Each patient was followed-up by a senior nurse to capture all adverse events as well as to record patient-satisfaction with a simple yes/no option.

Results: 46/50 patients were followed-at an average 18 days after surgery, with no adverse events in 38/46 (83%). Of the 8 patients with adverse events, 3 patients required renewal of a soaked dressing before the scheduled two weeks, 4 patients called the practice/district nurse for reassurance after changing their own dressing, 1 patient had a minor wound dehiscence but no intervention was required. 40/46 (87%) patients were satisfied with their own wound care, and found it convenient and said they would do it again.

Conclusion: Our results show that by focussing on patient-education and using subcuticular stiches in straight-forward forefoot surgery, it is possible to allow patients to change their own dressings at home without any increased risk of adverse events. Majority of patients in the study were satisfied with the process and found it very convenient. This obviously saves routine healthcare appointments in the community/hospital depending on the practice of individual surgeons.

P2

Fixation of ankle fractures: a major trauma centre's experience in improving quality

L. Jayatilaka¹, S. Whitehouse¹, L. Mason¹, A. Molloy¹

¹Aintree University Hospital, Liverpool, United Kingdom

Introduction: Ankle fracture mal-reduction results in poor long-term functional outcomes. Varying methods can be used to change practise and thereby outcomes. We present over 4 years-worth of results with the effects of different techniques for change.

Methods: 2 audit cycles were performed incorporating 3 audit data collections; an initial standard setting in 2013, with re-audits in 2015 and 2017. Between the first and second audit was a period of education and reflection. Between the second and third audit there was a change in process in ankle fracture management supported by education. Image intensifier films were reviewed on PACS, by at least 2 blinded observers in each cycle. These were scored based on the criteria published by Pettrone et al, with an additional criteria of incorrect placement of fixation

Results: In the initial audit cycle in 2013 there were 94 patients, with a mal-reduction rate of 33%. In the second audit, there were 68 patients, with an unchanged mal-reduction rate of 34%. In the third audit, there were 207 patients, with a significant decrease in mal-reduction rate to 2.4%. The final revision rate was 1.4%. The rate of deep infection was 0.5%.

Conclusion: By recognising and addressing the need to improve the quality of ankle fracture fixation we have made significant improvements. Initial intradepartmental education was not successful, even with constant consultant presence in theatre. The results of the second audit brought about system changes within the department, including the appointment of a foot and ankle trauma lead, dedicated foot and ankle trauma clinics and operating lists together with the development of treatment algorithms for complex ankle fractures. Education alone, without system change, is not successful in achieving improved outcomes. Our combined approach of education and system change led to a reduction of mal-reduction from 33% to 2.4%.

P3

Radiologic assessment of Minimally Invasive Chevron and Akin (MICA) procedure for the correction of moderate and severe hallux valgus

J. Gaskin¹, M. Gajewar¹, T. Hardwicke¹, N. Hossain¹, J. Vernois¹

¹Brighton and Sussex University Hospital NHS Trust, Brighton, United Kingdom

Introduction: Chevron osteotomies are traditionally used only for correction of mild hallux valgus, other osteotomies being employed for moderate deformities (eg. scarf osteotomies) and severe deformities (eg. basal osteotomies). MICA, a percutaneous distal chevron osteotomy of the 1st metatarsal is being used for the

correction of moderate and severe hallux valgus deformities in our unit.

We aim to demonstrate the radiographic improvements in the Hallux Valgus Angle (HVA) and Inter-Metatarsal Angle (IMA) when using MICA in the treatment of moderate and severe Hallux valgus.

Methods: Measurement of the HVA and IMA of pre and post-operative radiographs from MICA procedures done over 2 years by a single surgeon was done by 2 authors using PACS software.

We defined a moderate deformity as an IMA greater than 13° (14-20) or an HVA of less than 40° (16-40) and a severe deformity as an IMA of greater than 20° or an HVA greater than 40° .

Results: There were 142 MICA procedures. 38 were bilateral. Majority were female. Age range 26 - 80.

Pre-op HVA was moderate in 114 (30.3° , range 16-40) and severe in 28 (47.0° , range 41-70.7).

Of these, IMA was moderate in 62 (16° , range 14-20) and severe in 1 (22.2°).

The mean post-operative HVA was 9.5° (range 0-23) for the correction of moderate hallux valgus and 15.5° (1-35) for severe hallux valgus. The mean post-operative IMA for the correction of moderate hallux valgus was 6.9° (3-13).

Complete radiographic union appeared to have occurred in all cases 12 weeks post-operatively.

Conclusion: This study demonstrates that the MICA procedure involving a distal osteotomy can be successful in correcting the HVA and IMA in moderate and severe hallux valgus deformities.

P4

A comparison of two designs of post-operative shoe on function, satisfaction and back pain after hallux valgus surgery

S. Patel¹, P. Garg¹, M.A. Fazal¹, M.S. Shahid¹, D. Park¹, P.S. Ray¹

¹Barnet General Hospital, London, United Kingdom

Introduction: The scarf osteotomy affords stable fixation and immediate bearing of weight after hallux valgus surgery. Our unit has historically used a reverse camber shoe (RCS) for forefoot offloading but this is associated with back pain. Newer types of shoe are available; one of which is the DJO Podalux shoe which has a more uniform profile with a lower heel height and forefoot rocker, and a removable insert to convert the sole rigid to flexible allowing hallux movements. The purpose of this prospective audit was to identify if the introducing this newer design affected patient outcomes.

Methods: Data was prospectively collected on 80 feet in 78 eligible patients. The first 40 feet were given a RCS and once the Podalux shoe was made available, the next 40 feet were given this. Assessment tools included: the MOXFQ, a five question survey on the footwear, presence of back pain, complications experienced, compliance and radiographs for loss of correction.

Results: MOXFQ and shoe satisfaction significantly improved in both groups from two to six weeks with no significant difference between groups using using these tools at each time point. However, back pain was seen in six patients using the RCS of which five stopped using it as a direct consequence. Conversely, no patients with the Podalux shoe experienced back pain. No loss of correction was seen in any patient.

Conclusion: Both the RCS and Podalux shoe equal foot specific functional and radiological outcomes, but the latter shoe type is associated with less back pain and better compliance.

P5

Speedbridge re-attachment of the Achilles tendon for insertional tendinopathy

A. Davies¹, S. Hepple¹, P. Robinson¹, V. Sinclair¹, W. Harries¹, I. Winson¹

¹North Bristol NHS Trust, Bristol, United Kingdom

Aim: Recalcitrant insertional Achilles tendinopathy presents a surgical challenge. Associated Haglund lesions often need removal alongside pathological tendon, which can compromise the integrity of the insertion. The Arthrex Speedbridge is an innovative knotless anchor device, enabling Achilles tendon re-attachment following complete detachment and debridement. The technique has been performed at our Trust since June 2014 for all surgical cases that have failed conservative measures where there is a threat to the Achilles insertion integrity. We present a minimum four month follow-up of the largest patient group currently available in the literature.

Method: All patients treated with Achilles tendon debridement and Speedbridge re-attachment from June 2014-August 2016 were identified. The Manchester-Oxford Foot Questionnaire (MOXFQ) and a satisfaction survey were sent to all patients. All patient correspondence, operative reports, clinic letters and discharge summaries were reviewed. Follow-up telephone interviews were carried out with non-responders.

Results: A total of 38 patients were identified. 29/38 completed the questionnaires (response rate 76%). There were no re-ruptures or wound complications. The mean MOXFQ score was 27.3% and the mean satisfaction score was 9.1/10 (10=very satisfied). 97% would have the procedure again and 66% were working post-surgery. The mean time to return to work was 14 weeks. 34% were playing sport post-fixation, including squash and football.

Conclusion: Detachment, debridement and Speedbridge reattachment is a safe and effective treatment for insertional Achilles tendinopathy with high MOXFQ and satisfaction scores. This paper supports the use of the Arthrex Speedbridge for tendon re-attachment following surgical debridement of Achilles tendinopathy.

P6

Single stage reconstruction of combined skin and Achilles tendon defects with free composite perforator flaps

J.A. Jeevaratnam¹, N. Jacobs², R. Dunn¹, A. Crick¹

¹Salisbury NHS Foundation Trust, Plastic & Reconstructive Surgery, Salisbury, United Kingdom, ²Salisbury NHS Foundation Trust, Trauma & Orthopaedic Surgery, Salisbury, United Kingdom

Introduction: Combined defects of the Achilles tendon and its overlying skin are uncommon but complex reconstructive problems. Delayed referral may contribute to the high incidence of wound sepsis and occult deep vein thrombosis. They most frequently develop following open repair of a closed Achilles tendon rupture. Reconstruction of these defects aims to restore continuity but also the excursion and resilience of the Achilles tendon and to resurface this with thin, pliant, durable skin.

Methods: Between 2008 and 2016, 27 consecutive patients, aged 21 to 83 years, underwent single stage reconstruction of combined skin and Achilles tendon defects with free composite perforator flaps. Vascularised deep fascia, largely separated from the skin component of the flap, which may then be thinned, was used to reconstruct partial or complete segmental defects of the Achilles tendon. A standard rehabilitation regime was used, aligned with that used for operative and non-operative management of closed Achilles tendon ruptures in our hospital. All patients have been followed for at least one year post reconstruction.

Results: Four patients required subsequent trans-tibial amputation, two for persistent neuropathic pain relating to previous tibial nerve injury, one for mechanical pain and one diabetic patient, who developed chronic calcaneal osteomyelitis in association with bone anchors used for the original tendon repair. All other patients now wear normal shoes and have returned to their pre-injury activities. Their mean Achilles Tendon Rupture Score was 8.3.

Conclusion: Use of free composite perforator flaps safely allows single stage reconstruction of combined skin and Achilles tendon defects from a single donor site, despite the presence of sepsis. This technique restores function of the Achilles tendon and therefore avoids the need to consider tendon transfer to recover strong active ankle plantar flexion.

P7

Patient related outcome measures (PROMs) in Morton's neuroma: conservative vs. surgical management at one-year

A. Faulkner¹, A. Mayne¹, G. Chami¹, F. Harrold¹

¹NHS Tayside, Department of Trauma and Orthopaedics, Dundee, United Kingdom

Introduction: Morton's neuroma is a common condition affecting the foot and is associated with chronic pain and disability. Conservative management including a combination of orthotic input; injection or physiotherapy, and surgical excision are current treatment options. There is a paucity of literature regarding patient related outcome measures (PROMs) data in patients managed conservatively. We sought to compare conservative with surgical management of Morton's neuroma using PROMs data in patients with follow-up to one year.

Method: Prospective data collection commenced from April 2016. Patients included had to have a confirmed Morton's neuroma on ultrasound scan. Patient demographics including age, sex and BMI were collected. The primary outcome measures were the Manchester Foot Score for pain (MOX-FQ), EQ time trade off (TTO) and EQ visual analogue scale (VAS) taken pre-operatively, at 26-weeks and at 52-weeks post-operatively.

Results: 129 patients were included overall: 71 patients were conservatively managed and 58 surgically managed. 9 patients were converted from conservative to surgical management.

In the conservative group pre-operative, 26-week and 52-week scores respectively: mean MOX-FQ = 54.08, 41.23 and 43.10. eqTTO scores = 0.513, 0.685, and 0.620. eqVAS scores = 69.68, 73.12, and 68.82. At 26 weeks 13 patients were satisfied, 19 dissatisfied, 39 missing.

In the surgical group pre-operative, 26-week and 52-week scores respectively: MOX-FQ Pain scores = 56.92, 35.52, 40.73. eqTTO scores = 0.540, 0.747, and 0.690. eqVAS scores = 74.77, = 78.80, and 75.83. At 26 weeks 17 patients were satisfied, 13 dissatisfied, 28 missing.

Conclusion: This is one of the first studies investigating long-term PROMs specifically in conservative management for Morton's neuroma patients. Early data suggests that surgical management offers favourable functional outcomes at 1-year. Further long-term PROMs data is required to fully validate this.

P8

Needle placement in foot compartment pressure monitoring: a cadaveric study

J. Giddie¹, M. Dunn¹, L. David¹, G. Smith¹

¹Norfolk and Norwich Hospital, Norwich, United Kingdom

Introduction: Subfascial pressure measurement forms an integral part of compartment syndrome diagnosis. As the clinical signs are less reliable in foot compartment syndrome (FCS) there is a greater emphasis on invasive catheterization. A previous study noted the location of foot compartments on an MRI 3-Dimensional generated virtual foot model. A guide for needle placement was generated for accurate needle insertion for pressure monitoring. To date this instructional guide has not been assessed on cadaveric specimens.

Aims: 1. Assess accuracy of needle placement within cadaveric feet without knowledge of instructional guide. 2. Identify if the needle placement is reproducible and accurate in cadaveric feet after reading the guide.

Materials & Methods: The 3 participants were asked to place stryker gauge monitor needles into 9 individual compartments of a cadaveric foot. To limit bias each participant was assessed separately on an untouched cadaveric foot. Each compartment was assigned a different coloured gelatin dye, which was injected via the needles placed. The feet were then dissected by the lead author, findings recorded and pictures taken to be presented.

The second part of the study involved educating the 3 participants of the anatomical location and depth of each compartment and the exercise repeated.

Results: Success of identifying correct anatomical compartment pre and post education - Foot and ankle consultant - (5/9) 56%; (9/9) 100%, Orthopaedic Registrar - (3/9) 33%; (7/9) 78%, Upper limb consultant - 2/9 (22%); 7/9 (78%).

Conclusion: We can confirm the previously generated instructional guide which utilises landmarks for needle insertion are accurate and reproducible in cadaveric feet specimens. Prior to education needle placement resulted in successful penetration of the correct compartment in only 37% of attempts. This emphasizes the importance of only relying on compartment pressure monitoring in cases of FCS when an appropriately trained individual has inserted the needles.

P9

Preserving the diabetic foot - outcomes of diabetic foot ulceration and osteomyelitis treated with antibiotic loaded stimulan

B. Kapur¹, T. El Gamel¹, D. Harvey¹, G. Jackson¹, S. Platt¹

¹Wirral University Teaching Hospital, Trauma & Orthopaedics, Liverpool, United Kingdom

Background: Osteomyelitis can be limb and life threatening with devastating consequences. There is a role for medical and surgical management. Antibiotics can be locally delivered using methyl methacrylate or impregnated absorbable gauze. Calcium sulphate-based antibiotic therapy allows high concentration local delivery of a combination of antibiotics. Diabetic patients are predisposed to infection with varied and complex microbial load.

Aim: To establish the outcomes of patients with diabetic foot ulceration and osteomyelitis treated with antibiotic loaded Stimulan.

Methods: Retrospective data collection of patients treated with debridement, bone preserving surgery and antibiotic loaded stimulan for osteomyelitis of the foot treated by 2 orthopaedic consultants at Wirral University Teaching Hospital Trust between March 2014 and December 2015. Clinic documentation, MDT outcome and imaging were reviewed.

Results: 50 patients treated. 7 patients managed with vancomycin 1g in stimulan and 44 with vancomycin and gentamicin 240mg. 39/50 forefoot, 9/50 hindfoot and 2/50 midfoot.

A multitude of organisms were identified including staphylococcus aureus, citrobacter, pseudomonas, haemolytic streptococcus, e. coli and enterococcus.

All patients were discussed at MDT. Patients received augmentin and the antibiotics were changed based on microbiology results.

86% (43/50) had no further surgery within 12 months. 14% (7/50) patients went on to have further surgery linked to their initial procedure.

Follow up 6 months - 24 months.

Conclusion: In our experience, bone preserving surgery and antibiotic loaded stimulan provides safe and effective local delivery of high concentration antibiotics in the presence of osteomyelitis reducing the need for amputation in a compliant patient with excellent 1 year outcomes.

P10

A cadaveric comparison of the anterior inferior tibiofibular ligament (AITFL) versus the posterior inferior tibiofibular ligament (PITFL) in preventing talar shift in syndesmotic ankle injuries

J. Littlechild¹, A. Mayne¹, F. Harrold¹, G. Chami¹

¹Ninewells Hospital, NHS Tayside, Department of Orthopaedics, Dundee, United Kingdom

Introduction: How best to stabilise the distal tibio-fibular syndesmosis following injury remains controversial. This study aimed to ascertain whether stabilising only the AITFL is enough to prevent talar shift, and to test a simple, novel technique to reconstruct the AITFL.

Methods: Twelve cadaveric specimens were used. Talar shift was measured following: 1- no ligaments cut; 2-

entire deltoid ligament division; 3- group 1 (5 specimens) PITFL cut whilst group 2 (7 specimens) AITFL cut; 4- group 1 had AITFL divided whilst group 2 had the PITFL cut. Groups were compared using the unpaired Student's t-test.

Reconstruction of the AITFL was performed using part of the superior extensor retinaculum as a local flap. Measurement of talar shift was then repeated.

Results: With no ligaments divided, mean talar shift was 0.8mm for group 1 and 0.7mm for group 2. When the deltoid ligament was divided, mean talar shift for group 1 was 4.8mm compared to 4.7mm in group 2 ($P=1.00$). The mean shift in group 1 after PITFL division was 6.0mm, increasing the talar shift by an average of 1.2mm. In group 2 after AITFL division mean talar shift was 8.3mm ($P=0.06$), increasing talar shift by an average of 3.6 mm. After division of the second tibiofibular ligament, mean talar shift in group 1 measured 10.0mm and in group 2 was 10.9mm($P=0.29$).

Following sole reconstruction of the AITFL, mean talar shift was 3.7mm compared to 10.5mm prior to reconstruction.

Conclusion: These results demonstrate a trend that the AITFL confers greater ankle stability than the PITFL. Three times more talar shift occurred after the AITFL was divided compared to the PITFL. Repairing just the PITFL (for example by fixation of the posterior malleolus avulsion fracture) may not adequately prevent talar shift while reconstruction of the AITFL potentially restores ankle stability.

P11

Arthroscopic ATFL ligament reinforcement: a case series

S. Yousufuddin¹, S. Ali¹, A. Usman¹

¹University Hospital Birmingham, Birmingham, United Kingdom

Introduction: Ankle inversion injuries are incredibly common, but often suboptimally managed with up to 30% of patients have long-term instability. Approximately 85% of ankle sprains involve lateral ligament complex. Some controversy still persists regarding the best modality of the surgical treatment. We present a case series and pragmatic approach to lateral complex injuries by arthroscopic reinforcement. Arthroscopic assisted surgical repair has an advantage of early recovery and consistent improvement in functional score of the patients.

Method: Via our single consultant trauma clinic we evaluated and followed-up consecutive patients between the ages of 18 and 50 presenting with ankle instability over six months. Patients underwent focused rehabilitation (minimum 3 months) and identification of extent of ligament injury using dynamic ultrasound scanning (DUSS) at 7.2 weeks post injury (a point at which ankle pain had settled down). Patients with residual pain and instability after 3 months were considered to have failed conservative management. A subsequent MRI scan was performed to determine other ankle pathologies such as osteochondral and peroneal tendon lesions. AFOAS Scores were performed at 6 weeks from index injuries and 3 months following surgery. Patients underwent arthroscopic assessment and simultaneous arthroscopic-assisted anterior talofibular ligament (ATFL) repair using a biodegradable suture anchor in the fibula and 4-strand suture at the talar insertion.

Results: Thirty-eight patients were identified and 34 included in the study. The 4 excluded patients had either significant associated injuries or were non-compliant with post-op follow-up. The AOFAS score (median (interquartile range)) improved from 66 (53-68) pre-operatively to 90(85-92) post-operatively. Twelve patients had subcutaneous suture irritation for three months which resolved and one patient had neuropraxia of sural nerve. There were no cases of infection or over-tightened ligaments.

Conclusions: Our results demonstrate improvement in AFOAS Scores following the arthroscopic assisted ATFL repair with better patient satisfaction.

P12

Chronic ankle instability following minor avulsion fractures of the fibula in children

M. Puthiya Veetil¹, V. Spitteri¹, H. Prem¹

¹Birmingham Children's Hospital, Orthopaedics, Birmingham, United Kingdom

Introduction: Paediatric avulsion fractures of the lateral malleolus, may go into non-union resulting in a detached ATFL (anterior talofibular ligament) and recurrent ankle instability with pain. As paediatric ankle instability is uncommon, advice is usually sought from those surgeons in adult practice, who need to be aware of this condition.

Materials and methods: Six girls aged between 7 to 10 years at the time of injury presented with recurrent ankle instability and pain. All had been treated with a below knee plaster cast for four weeks, followed by physiotherapy for proprioception exercises but had recalcitrant symptoms. Sequential radiographs showed a small avulsion fracture of the lateral malleolus epiphysis, which remained ununited in all cases.

When there was no improvement with an ultrasound guided anterolateral ankle injection, they underwent surgical exploration with a lateral approach. Intra operatively ankle instability was confirmed by comparing both sides with an Anterior Drawer Test. At surgery, the bony fragment was found to be attached to the ATFL in all cases. The fragment was excised and the ligament was reattached to the tip of the fibula epiphysis with

resorbable suture anchors. A modified Brostrom technique was used. Post operatively, a below knee cast for applied for 6 weeks followed by physiotherapy.

Results: All the patients had an uneventful recovery without complications and had a stable ankle at final follow up. All the children went back to pre-injury level of sporting activities, including gymnastics after 6 months.

Conclusion: Avulsion fractures of lateral malleolus epiphysis in children are actually larger than their radiological size and should be recognised as an injury to the ATFL, which could result in chronic ankle instability and pain. Caution should be exercised when reporting such fragments as a benign Os Subfibulare. Surgical stabilisation using resorbable implants in the epiphysis is safe and successful.

P13

Partial excision of navicular and extended triple arthrodesis and bone grafting for Müller-Weiss disease

Z. Higgs¹, G. Chalmers², C.S. Kumar¹

¹Glasgow Royal Infirmary, Department of Orthopaedics, Glasgow, United Kingdom, ²University of Glasgow Medical School, Glasgow, United Kingdom

Introduction: Isolated talonavicular fusion is often associated with failure for the treatment of Müller-Weiss disease of the navicular. This is mainly due to inadequate viable bone in navicular for a talonavicular fusion. Both triple arthrodesis and talo-naviculo-cuneiform fusions have been reported to yield better results. We present the results of an "extended" triple arthrodesis procedure, modified to include partial or sub-total excision of the diseased navicular and bone grafting.

Methods: A retrospective review of case notes and radiographs of all patients who underwent extended triple arthrodesis between 2007-2015 was performed. The lateral one-third or the lateral half of the navicular was excised in all patients and a tricortical iliac crest or a block allograft from a femoral head was used to bridge the talus to the cuneiforms.

Results: Twelve operations were performed in 11 patients. There were 4 men and 7 women with a mean age of 49 years (range 20-69 years). Seven primary (58%) and 5 revision (42%) procedures were performed. Mean follow-up was 13 months (range 10-67 months). There was evidence of clinical and/or radiological union at the latest follow-up in all patients. Two patients underwent removal of metalwork (17%). One patient had delayed wound healing (8%). There were no revisions and no cases of infection.

Conclusion: Extended triple fusion appears to be an effective procedure for the treatment of Müller-Weiss disease; excision of the diseased navicular and replacement with bone graft gives a predictable rate of success in these complex cases.

P14

The plantar support of the navicular cuneiform joint - a major component of the medial longitudinal arch

E. Swanton¹, A. Fisher², L. Fisher², A. Molloy^{1,2}, L. Mason^{1,2}

¹University Hospital Aintree, Liverpool, United Kingdom, ²Liverpool University, Liverpool, United Kingdom

Introduction: Weight bearing radiographic analysis of pes planus deformities show, with varying degree of severity, a break in Mearys line, uncovering of the talar head and in increase in talar first metatarsal angle. Work by Alsousou (BOFAS 2016) has shown the break in Mearys line to occur not only at the talonavicular joint (2/3rds of cases) but also at the navicular cuneiform joint (1/3rd of cases), which is distal to the spring ligament and reported tibialis posterior insertion.

There are currently no anatomical studies analysing the medial longitudinal arch distal to the spring ligament insertion. We aimed to examine this area and assess the anatomy.

Methods: We examined 10 cadaveric lower limbs that had been preserved for dissection at the Human Anatomy and Resource Centre at Liverpool University in a solution of formaldehyde. The lower limbs were carefully dissected to identify the plantar aspect of the medial longitudinal arch.

Results: In all specimens, the tibialis posterior tendon inserted into the plantar medial aspect of the navicular with separate slips to the intermediate and lateral cuneiforms. Following insertion on the navicular, a tendon like structure extends from this navicular insertion point to the medial cuneiform. This structure is statically inserted between the navicular and medial cuneiform allowing the pull of tibialis posterior to act on the navicular and medial cuneiform in tandem. A separate smaller plantar ligament is also present between the navicular and medial cuneiform.

Conclusion: The tibialis posterior tendon inserts into the navicular and continues onto medial cuneiform to provide a static restraint between two bony insertions, thus supporting the distal aspect of the medial longitudinal arch. This structure is not addressed in classical tibialis posterior reconstructions.

P15

Regional anesthesia for foot and ankle surgery outcomes & patient satisfaction

M. El Sayad¹, M. Blundell¹, D. Townshend¹, J. Coorsh¹, A.N. Murty¹, R.K. Kakwani¹

¹Northumbria Healthcare Trust, Northern Deanery, North Tyneside General Hospital, North Shields, United Kingdom

Introduction: There is an increasing popularity of regional anesthesia (blocks) in foot and ankle surgery. Its hindered by the requirement of trained anesthetists, equipment, costs, and complications. Its advantages are avoiding a general anaesthetic and its associated risks, reduced pain scores, opiate requirement and hospital stay. Our aim is to assess patient satisfaction with this service.

Method: Using prospective data collection between 2013 to 2015, a total of 357 patients identified having foot and ankle procedures with a regional anesthetic. Complete pre, intra and postoperative information obtained in 255 cases from patient's notes, telephone questionnaire and out patients clinics.

Results: From 255 patients, 168 females and 87 males with an age range between 15 to 91 years. 199 patients were day cases and 56 were inpatients for either surgical or social reasons. 189 forefoot and 66 hindfoot procedures. 38 patients had a general anesthetic and 217 were either sedated or awake. 64 ankle and 91 popliteal blocks, the average time to perform the block was 13 minutes. Intraoperative analgesia was considered perfect in 232 cases and inadequate in 23 cases, of which 5 were converted to a general anesthetic. In recovery 191 (75%) had a pain score of zero. The block duration lasted between 4 to 48 hours. 66 patients had opiate analgesia postoperatively. 234 patients declared having adequate analgesia in their postoperative period. 247 patients (97%) said they would have the block again for surgery and 239 said they would recommend it. There were no long-term postoperative neurological complications from these blocks.

Conclusion: Our study, one of the largest in the literature shows that regional anesthesia was responsible for a reduction in inpatient stay, pain scores, analgesia requirements and has a high patient satisfaction. With appropriate trained personnel and equipment a very safe procedure with no long term complications.