Day 1 Wednesday 11th November
Main Auditorium

08.00 – 08.45 Registration & Coffee (Ground floor & Lower Ground Floor Foyer)
08.45 – 09.00 Welcome to BOFAS 2015
Anthony Sakellariou
09.00 - 10.30 Symposium 1: Calcaneus fractures and hindfoot deformities
Chairs: Donald Bohay & Chris Blundell
09.00 – 09.10 Calcaneus fractures: where are we now?
Nikos Gougoulias
09.10 – 09.20 Incidence, consequences and management of calcaneal malunions
Markus Knupp
09.20 – 09.30 Correction of malunited calcaneus fractures: beyond the bone block
Steven Haddad
09.30 – 09.45 Discussion
09.45 – 09.55 Ball and socket ankle: types and management
Bernhard Devos-Bevernage
09.55 – 10.05 Correcting severe cavo-varus: are fusions really the wrong approch?
Steven Haddad
10.05 – 10.15 Correcting the flat foot: should arthroereisis be revisited?
Andy Goldberg
10.15 – 10.30 Discussion
10.30 - 11.00 Tea/Coffee (Upper & Lower Foyer)
11.00 - 12.30 Free Papers 1
Chairs: Roland Russell & Jitendra Mangwani
12.30 - 13.30 Lunch (Upper & Lower Foyer)
13.30 - 15.00 Symposium 2: Fracture union and grafting
Chairs: Steven Haddad & Mark Davies (Sheffield)
13.30 – 14.00 Unified fracture theory
David Elliott and Bob Handley
14.00 – 14.10 Orthobiologics: are they of any use ?
Callum Clark
14.10 – 14.20 Why I don't graft
David Elliott
14.20 – 14.30 Why I do graft
Bernhard Devos-Bevernage
14.30 – 15.00 Discussion
15.00 - 15.30 Tea/Coffee (Upper & Lower Foyer)
15.30 - 16.00 Keynote Speaker 1: Markus Knupp
Main Auditorium
'Use of osteotomies in the management of ankle joint OA'
16.00 - 17.30 Instructional 1: Ankle fractures
Chairs: Jim Barrie & Matt Solan
16.00 – 16.20 How to assess stability: which ones need fixing
Nikos Gougoulias
16.20 – 16.30 Posterior malleolus fractures: which ones to fix and how
Mark Davies (Sheffield)
16.30 – 16.40 Syndesmosis: when does it need stabilising and how
Anthony Sakellariou
16.40 – 16.50 Medial malleolus fractures: are they all the same?
James Davis
16.50 – 17.00 Osteoporotic ankle fractures: tips and tricks
David Elliott
17.00 – 17.30 Discussion
17.30 – 19.00 Poster Viewing & Networking Reception (Ground floor & lower ground floor foyer)

Day 2 Thursday 12th November
Meeting Rooms – see below

08.30 – 13.00 Workshops
09.00 – 12.20 AHP Session
Main Auditorium
09.00 – 13.00 GP Session
The Glass Room (1st Floor)
09.00 – 10.30 Difficult Cases Session
Bellerby Studio (Lower Ground Floor)
10.30 – 11.00 Tea/Coffee (Upper & Lower Foyer)
11.00 – 12.20 Risk Information, Consent and Montgomery
Bellerby Studio (Lower Ground Floor)
12.30 – 13.00 Keynote Speaker 2: Donald Bohay
Main Auditorium
'Treatment of the chronically degenerate Achilles' tendon'
13.00 – 14.00 Lunch (Upper & Lower Foyer)
14.00 – 15.30 Free Papers 2
Chairs: Tim Clough & Robert Clayton
15.30 – 16.45 Symposium 3: Achilles' tendon
Main Auditorium
15.30 – 15.40 Rupture: 'why I would have mine surgically repaired'
Chris Pearce
15.40 – 15.50 Rupture: 'why I would have mine managed functionally'
Claire Topliss
15.50 – 16.00 Discussion
16.00 – 16.15 How I manage insertional Achilles' tendinopathy – USA
Steven Haddad
16.15 – 16.30 How I manage insertional Achilles' tendinopathy – Europe
Jean-Luc Besse
16.30 – 16.45 Discussion
16.45 – 17.15 Tea/Coffee (Upper & Lower Foyer)
17.15 – 18.15 Instructional 2: Ankle 'instability'
Main Auditorium
17.15 – 17.25 The Brostrom in 2015: when and how?
Donald Bohay
17.25 – 17.35 When to reinforce the Brostrom and how ?
Yves Tourné
17.35 – 17.45 Is there still a need for non-anatomic repair ?
Hiro Tanaka
17.45 – 17.55 The subtle cavus foot; does it need an osteotomy ?
Markus Knupp
17.55 – 18.05 Acute syndesmotic injury in the athlete
James Calder
18.05 – 18.15 Role of arthroscopy in the management of syndesmotic instability
Rhys Thomas
18.15 – 18.30 Discussion
18.30 – 19.15 Keynote Speaker 3: Steven Haddad
Main Auditorium
'Total ankle arthroplasty: Making the unpredictable predictable'
20.30 BOFAS Annual Dinner
(Mercedes Benz World coaches depart from 19.10hrs outside G-Live)

Day 3 Friday 13th November
Main Auditorium

08.00 – 08.40 Update 1: Outcomes: Any progress?
Chairs: Ian Winson & Stephen Bendall
08.00 – 08.10 ProOne personal
Matt Solan
08.10 – 08.20 Hospital Registry
Paul Halliwell
08.20 – 08.30 BOFAS Registry
Andy Molloy
08.30 – 08.40 NJR/Tarva trial update
Andy Goldberg
08.50 – 09.00 Update 2: VTE Prophylaxis in F&A Surgery
Chairs: Ian Winson & Stephen Bendall
08.50 – 09.00 VTE prophylaxis in F&A surgery: A US perspective
Donald Bohay
09.15 – 09.35 Update 3: Diabetic foot management in the UK
Chairs: Chris Walker & Venu Kavarpathu
09.15 – 09.25 The current state of affairs:
Fred Robinson
09.25 – 09.35 The desired state of affairs:
Matt Solan
09.35 – 09.45 BOA Presidential Address to BOFAS
BOA President Tim Wilton
09.45 – 11.15 Free Papers 3
Chairs: Matt Solan & Anthony Perera
11.15 – 11.45 Tea/Coffee (Upper & Lower Foyer)
11.45 – 13.00 Current Debates & Challenges
11.45 – 12.30 1. Debates
11.45 – 11.55 A philosophy on bunions in 2015
Donald Bohay
11.55 – 12.05 Scarf evolution: one screw, no screws… plate
Bernhard Devos-Bevernage
12.05 – 12.15 DMMO: What's the evidence? Does it have a role?
Jean-Luc Besse
12.15 – 12.30 Discussion
12.30 – 13.00 2. Challenges
12.30 – 12.40 Navicular fractures: stress and otherwise
Steven Haddad
12.40 – 12.50 Sesamoid problems: is there a logical algorithm for managing them?
Mark Davies (London)
12.50 – 13.00 Discussion
13.00 – 13.45 Lunch (Upper & Lower Foyer)
13.15 – 13.45 Exhibitors Meeting - The Glass Room (1st Floor Reception Rooms) Company Sponsors Only
Anthony Sakellariou
13.45 – 13.55 Best Paper/Best Poster Prize Presentations
Anthony Sakellariou/Matt Solan
14.00 – 14.30 Keynote Speaker 4: Roy Lilley
'RITE NHS'

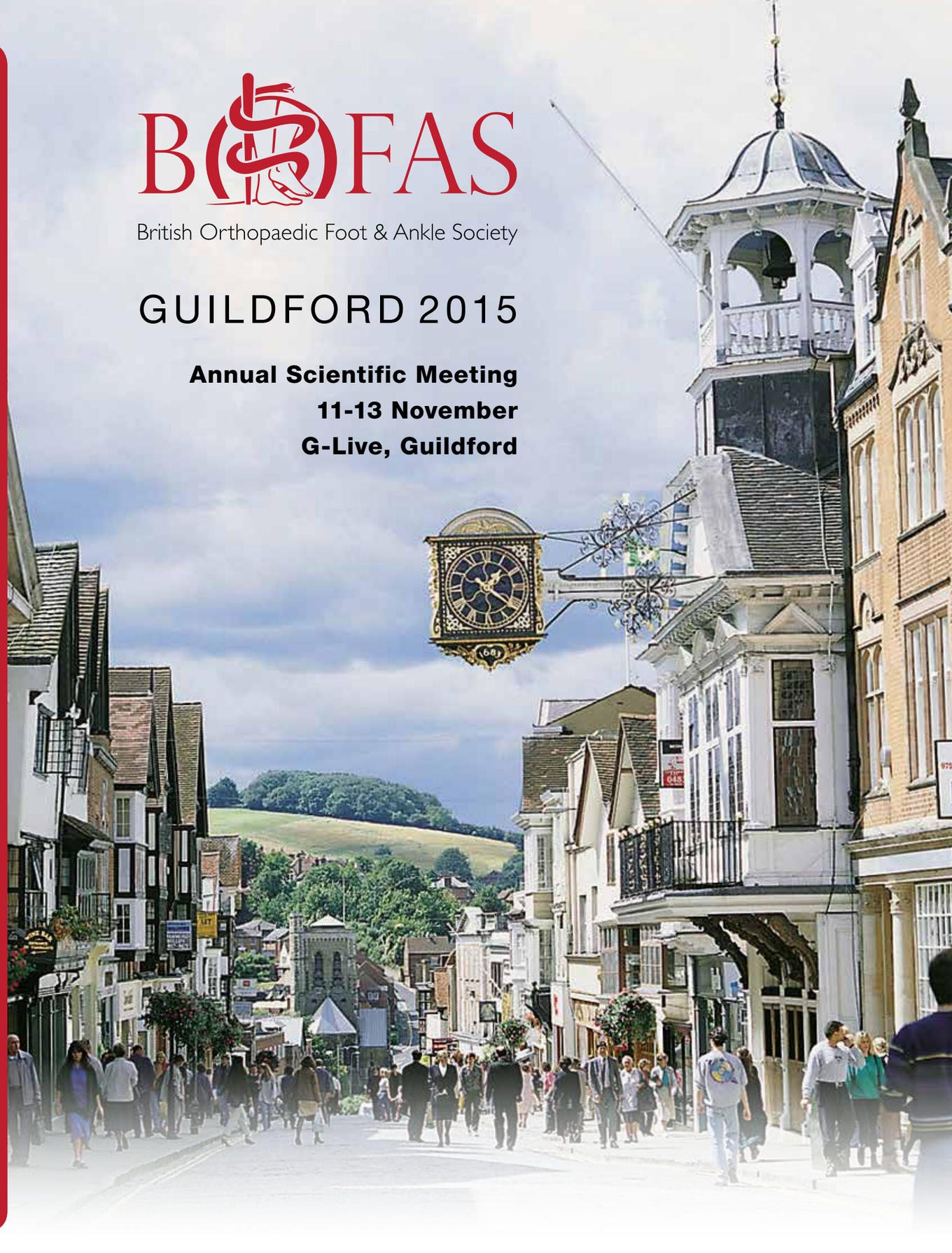
Close of Scientific Meeting

14.30 – 16.45 BOFAS AGM
14.30 – 14.40 President Report
14.40 – 14.50 Ed Comm Report
14.50 – 15.00 Sci Comm Report
15.00 – 15.10 Out Comm Report
15.10 – 15.20 EFAS Report
15.20 – 15.30 Coding Report
15.30 – 15.40 Webmaster Report
15.40 – 15.50 Treasurer Report
15.50 – 16.00 Accountant
16.00 – 16.10 Soap Box – time for floor to bring matter to attention AGM
16.10 – 16.20 New Members Vote/Council and President Elect Appointments
16.20 – 16.35 Presidential Handover to Bill Harries

BOFAS
British Orthopaedic Foot & Ankle Society

GUILDFORD 2015

Annual Scientific Meeting
11-13 November
G-Live, Guildford



OUR EDUCATIONAL SUPPORT PARTNERS

GOLD SUPPORT EDUCATIONAL PARTNER

WRIGHT FOCUSED EXCELLENCE

OrthoSolutions Specialist Extremities

CARTIVA® Synthetic Cartilage Implant Distributed by BIOVATION UK Ltd.

stryker®

SILVER SUPPORT EDUCATIONAL PARTNER

MatOrtho®

DePuy Synthes COMPANIES OF Johnson&Johnson

ZIMMER BIOMET

LM Lavender Medical

INTEGRA® LIMIT UNCERTAINTY

BONESUPPORT™

Arthrex®

smith&nephew

BRONZE SUPPORT EDUCATIONAL PARTNER

Sovereign Medical Ltd

ATHRODAX HEALTHCARE INTERNATIONAL LTD

DJO GLOBAL

EMS ELECTRO MEDICAL SYSTEMS

medartis®

BAUERFEIND Motion is Life.

Biocomposites

Implants International ltd

Int2Med

bioventus Active Healing Through Orthobiologics

firstkind living science

CurveBeam pedCAT™

LockDown Medical Ltd.

Vertec

HOSPITAL INNOVATIONS

OPED

BOFAS British Orthopaedic Foot & Ankle Society 40 YEARS

Welcome to BOFAS 2015

The main objective and raison d'être of our Society is the promotion and exchange of knowledge between all professionals engaged in the care of the foot and ankle and its varied pathology. In pursuit of this goal, BOFAS organises this annual scientific meeting which, on the evidence of the past few years, is growing from strength to strength. Indeed, believe it or not, this is our 40th anniversary year! Some of the more senior members of the Society will remember its inception in 1975. Sadly, one of those members has recently passed away. I urge you to read the reflections of some of the members of our society who knew Prof Leslie Klenerman well. They are included in this programme.

As usual, there has been an enormous effort into getting this meeting ready. I really hope you enjoy the venue, programme and hospitality that Guildford offers. For the first time, our meeting will be held in a very large theatre-type auditorium. I am hoping that this won't affect degree of interaction that we as a society are famously used to. The venue has the added advantage of being in the centre of town with most of the accommodation within a very short walking distance. Further, it also offers delegates and their partners an opportunity to walk around town, shop and, as we remain a very sociable society, an ideal opportunity to share a meal and drink with old and new friends or colleagues.

The 'flavour' of this year's meeting is the 'jobbing' Foot & Ankle surgeon. I have tried, as far as is possible, to avoid the very eclectic stuff (not exclusively) and concentrated instead on updating and challenging our thoughts on the current management of the more commonly presenting foot and ankle pathology. A very topical addition to the content of Thursday's programme is the session on Consent. I am very grateful to Dishan Singh who not only suggested this, but also helped put it together. I would encourage you to attend this session.

As usual, in the background, the Council and various committee members of the society have been working very hard throughout the year in order to improve both our professional lives and the outcomes of our patients. Indeed, outcomes and PROMS have been at the forefront of the BOFAS council agenda and, provided our political masters' objectives have clinical merit, are crystal clear and mirror ours (not common), then we, together with the BOA, should support this process. An update on 'outcomes' is included in Friday morning's programme. The Scientific Committee, under the chairmanship of Matt Solan have, as usual, also done their part by having to review close to 200 abstracts whilst at the same time, having to short-list only 30 of these for podium presentation and 20 as poster presentations. Further, the Education Committee under the chairmanship of Chris Blundell, has now run 12 'Principles' courses, 'trained' 250 trainees and the feedback from these is so good that the BOA are keen to see how we do this so as to support other specialist societies in pursuing this kind of education for their specialist trainees too. Given the success of the 'Principles Course', we are now about to launch a pilot 'Advanced Course' for senior trainees, fellows and newly appointed consultants.

Continues on next page

On the Thursday evening, our annual dinner is being held at the iconic Mercedes-Benz World. If it were still summer, I am sure many of you would be allowed onto the racetrack. Unfortunately, this is not possible in mid-November but I would urge you to spend time looking around the venue, all the past and present Mercedes classics and having a go on the simulators prior to the dinner and 'surprise' guest speaker. I am sure you will find him entertaining.

One further non-clinical highlight of this year's meeting is our keynote speaker on Friday, Mr Roy Lilley. He has an unparalleled knowledge and insight into the workings of the NHS and is a massively entertaining speaker. Additionally we have, as usual, secured the services of an outstanding international faculty to help deliver this year's programme and I am very grateful to them for giving up their precious time and expertise. Other guests this year are the new BOA President Tim Wilton and the ever supportive BOA Chief Executive Mike Kimmons. Please extend your welcome to them all.

My final thanks are to all members of Council and the various committees without whose help and guidance the President's job would nowadays be impossible. As usual, a massive thank you also, to Jo Millard, our BOFAS administrator, who this year took on the enormous task of delivering this meeting without any outside events team being involved.

Guildford is the capital of leafy Surrey. I hope all of you, including our GP and AHP colleagues who join us again this year for the Thursday programme, enjoy the town for what it has to offer and the meeting overall.

With best wishes

Anthony Sakellariou BSc FRCS (Orth)
President BOFAS

BIOGRAPHIES

Jean-Luc Besse

Jean-Luc Besse attended Alexis-Carrel Medical School - Lyon University, graduating in 1984 and taking up his internship at Lyon University Hospital. He gained his Masters in Biomechanics/Biomaterials at University Aix Marseille II in 1988 and qualified in Orthopaedic Surgery and Trauma in 1989.

Jean-Luc also has specialist qualifications in Biology and sport medicine (CES Lyon -1986), Microsurgery (AEU Lyon 1988) and is a Biologist qualified in animal experimentation (Veterinary School Lyon - 1992). He gained his PH.D in Biomechanics/Biomaterials at University Aix-Marseille II. He currently works at Lyon-Sud Hospital as a practitioner in the Orthopaedic Department in charge of Foot and Ankle surgery.

He is Past-President of the Association Française de Chirurgie du Pied (AFCP), Associate editor of OTSR (Orthopaedics & Traumatology Surgery & Research), Council Member of European Foot Ankle Society (EFAS), Education Committee Member of European Foot Ankle Society (EFAS) and International member of American Orthopaedic Foot Ankle Society (AOFAS).

Chris Bleakley

Chris Bleakley (PhD BSc hons MCSP SRP) graduated from the University of Ulster in 2000. Between 2000 and 2005, he completed his Doctorate in acute soft tissue injury management, and worked as a Physiotherapist at the Sports Institute of Northern Ireland managing elite and high performance athletes. Between 2005 and 2011, he worked in a split clinical/research post at the Faculty of Life and Health Sciences.

Since June 2011, he has been working in an academic post at the Centre for Health and Rehabilitation Research, and the Ulster Sports Academy (both University of Ulster). He has published over 100 scholarly outputs including, 70 original research papers and 5 book chapters. He is the Course Director for the MSc Sport and Exercise Medicine, University of Ulster and is external examiner for MSc Sport and Exercise Medicine at Queen Mary, University of London. He has been part of the teaching Faculty at the Royal College of Surgeons, England since 2011 and the MSc in Sports Physiotherapy at Cardiff University since 2010.

His main research interests include: acute soft tissue injury management; prognosis and rehabilitation of ankle sprain and chronic ankle instability. He continues to work as a physiotherapist within a range of sports (field hockey, rugby union and netball).

Donald Bohay

Donald Bohay graduated from McGill University M.D.C.M. in 1987 then completed his internship at the University Of California in 1988, gaining his Fellowship in Foot & Ankle at Wayne State University in 1994.

Donald holds current certification for Orthopaedic Surgery from the American Board of Orthopaedic Surgery. Amongst his professional achievements are the "Patient's Choice Award" 2008-2012 and "Orthopaedics This Week Top US Foot & Ankle Surgeons" 2013.

Donald Bohay is widely referred in published journals for his work including Heel Overload Associated with Heel Cord Insufficiency, Outcomes Following Midfoot Arthrodesis for Primary Arthrodesis and Closed Intramedullary Screw Fixation for Non-union of Fifth Metatarsal Jones Fracture. He has also completed projects on Bilateral Ankle Arthrodesis: An Analysis of Outcomes, Total Ankle Arthroplasty: Epidemiology and Outcomes of Primary Implants and Classification and Outcome for Surgical Treatment for Midfoot Arthrosis and Collapse.

Donald has also lent his professional skills to various humanitarian causes including Haiti Earthquake Relief, Partners in Health, February 2010.

James Calder

Mr Calder graduated from The London Hospital in 1991 and trained with the NW Thames rotation taking time out for his MD thesis with a Research Fellowship from the Royal College of Surgeons in England. He completed his training with a fellowship in Brisbane and was awarded a travelling sports orthopaedic fellowship in the USA.

Mr Calder was appointed Consultant at the North Hampshire Hospital, Basingstoke in 2002 moving to the Chelsea and Westminster Hospital in 2010 and was appointed Visiting Professor at Imperial College, London in 2014.

Mr Calder has developed a special interest in the treatment of sports-related F&A injuries and tendinopathy. He remains actively involved in research projects at Imperial College and the Fortius Clinic, of which he was a founding member. He is on the Editorial Board of Bone and Joint Journal (sub-editor for F&A), vice-president of ESSKA-AFAS and past Chairman of the Achilles Tendon Study Group. He is Medical Adviser to Dance UK.

Callum Clark

Callum Clark graduated from Cambridge and completed his orthopaedic training in the north west London training programme, the Royal National Orthopaedic Hospital, Stanmore and Melbourne, Australia. He was appointed as a consultant orthopaedic surgeon at Heatherwood and Wexham Park hospitals in 2004 and has a busy foot and ankle surgical practice. He has run an accredited postgraduate Foot and Ankle fellowship programme since 2007, regularly teaches at regional and national courses is co-convenor of a Foot and Ankle Trauma course for SpRs. He is a member of the BOFAS Education Committee.

Noelene Davey

Lower Limb Orthopaedic Physio Practitioner, Imperial College Healthcare NHS Trust, London. Privately at KineticPhysio.org, London (Victoria).

Noelene graduated from the University of Sydney 20 years ago and has been specialising in the F&A over the past 5 years.

She is a founding member of the Association of Foot & Ankle Physiotherapists & AHPs (AFAP), which aims to increase AHP F&A learning opportunities, support research and improve information sharing. See website for more details www.afap.org.uk.

Mark Davies

Mark Davies was appointed as a Consultant Orthopaedic Surgeon in 2006 with a special interest in treating elective and traumatic conditions of the adult foot and ankle at the Northern General Hospital, Sheffield.

He qualified from the University of Southampton in 1993 and undertook basic training in London, Oxford and Swindon prior to commencing Orthopaedic training in Sheffield.

He is both Fellowship trained in Limb Reconstruction techniques (Sheffield) and in Adult Foot & Ankle surgery, having spent 2005 working with the renowned Dr Terry Saxby at the Brisbane Foot & Ankle Centre.

He currently directs the research being produced from the Sheffield Foot & Ankle Unit into all manner of foot and ankle pathologies. He has published extensively on all aspects of foot and ankle surgery.

Mark Davies

Mark Davies read medicine at Oxford University and undertook his clinical training at St Mary's Hospital, London. His postgraduate training took place in and around London on the North West Thames circuit, gaining the FRCS (Orth) accreditation in 1996. In 1997 he worked with the world-renowned foot and ankle surgeon, Terence Saxby, in Brisbane, and completed his training at the Royal National Orthopaedic Hospital. Mr Davies was appointed as a Consultant Orthopaedic Surgeon at Guys and St Thomas' Hospitals in 1999.

He has written extensively including Gray's Anatomy, Aird's Companion in Surgical , Bailey & Love's Short Practice of Surgery and most recently the Oxford Textbook of Orthopaedics & Trauma.

Mr Davies set up the London Foot & Ankle Centre in 2003 to provide comprehensive, state of the art care for patients with foot and ankle disorders, and he is now based there full time. He has a large experience of the treatment of adult foot & ankle disorders and has treated many elite athletes and professional sportsmen and women.

James Davis

James Davis graduated from Charing Cross and Westminster medical school in 1990 and completed surgical training in London. His orthopaedic training was in the South Thames region. He was fellowship trained at the University of Johns Hopkins, USA. He was appointed as a consultant orthopaedic surgeon at Torbay Hospital in 2001. He started a specialist foot and ankle service in South Devon and runs the South West Foot and Ankle Centre. He is Secretary of the Education Committee and is an FRCS (Tr & Orth) examiner.

Bernhard Devos-Bevernage

Bernhard Devos-Bevernage graduated from the University of Ghent in 2000. Bernhard qualified as an Orthopaedic Surgeon from the University of Louvain in 2006. In 2007 Bernhard became a Fellow of the Institute for Foot & Ankle Reconstruction at Mercy (Baltimore, USA) and a Fellow of the Academisch Medisch Centrum (Amsterdam, Netherlands).

Bernhard currently works in Brussels at the Foot and Ankle Institute and is involved with Orthopaedic Surgery, Foot and Ankle Surgery, Sports Injuries of the Foot and Ankle and the Diabetic Foot Clinic.

David Elliott

Mr David Elliott is a consultant trauma & orthopaedic surgeon, specialising in both trauma & knee surgery.

He is one of the country's leading trauma surgeons and has a super-specialist interest in non-union and complex trauma surgery, routinely treating patients referred to him from the rest of the UK and Europe. David has a specialist elective interest in arthroscopic knee surgery, ligament injuries, and total knee replacement.

With over 20 years of experience of trauma and knee reconstruction, he is a leader in his field.

David qualified from Charing Cross Hospital Medical School, London and completed his postgraduate orthopaedic training in London and South West Thames region. He then undertook specialist fellowship training in trauma and reconstructive surgery at the internationally renowned Sunnybrook Medical Centre in Toronto, Canada.

Andy Goldberg

Andy Goldberg is a Consultant in the Foot & Ankle Unit at the Royal National Orthopaedic Hospital in Stanmore and also a Clinical Senior Lecturer at UCL. He graduated from St Mary's Hospital Medical School (Imperial College) in 1994. His specialist training in trauma and orthopaedics was on the London (North East Thames) Rotation. Prior to his CCST he obtained an MD from the University of London for his Thesis on Stem Cells in Cartilage Repair. He underwent a specialist fellowship in complex foot and ankle disorders in Oxford, as well as a travelling fellowship in 15 centres of excellence across the USA and Europe. In addition to extensive peer review publications, he has authored several textbooks and book chapters and reviews for several grant awarding bodies and distinguished journals. He was awarded an OBE in the Queens New Year's Honours List 2011 for services to medicine. At UCL he runs the Masters Course in Trauma & Orthopaedics. He has raised more than £7m in research grants, including an NIHR Health Technology Assessment Award for a multicentre RCT of ankle replacement against ankle fusion.

Nikolaos Gougoulias

Mr. Nikolaos (Nikos) Gougoulias was born in Greece in 1973. He graduated from Aristotle University of Thessaloniki Medical School in 1997 and then fulfilled his national service in the Hellenic Army and went on to his orthopaedic specialty training, while completing his PhD Thesis in the Department of Physiology of the Medical School in Thessaloniki, Greece, in 2003. He trained in Orthopaedics in the Greece and the UK completing his specialty training in 2007. Mr. Gougoulias completed the "Surrey Foot & Ankle Fellowship" in the Orthopaedic Departments of Frimley Park and Royal Surrey County Hospitals, and since 2009 has worked as a Consultant Orthopaedic Foot & Ankle Surgeon at Frimley Park Hospital, also holding a part-time private practice in Greece. Mr.Gougoulias has published 42 papers and 4 chapters in books, and is a reviewer for peer reviewed journals (Foot Ankle Surgery, British Medical Journal, Clin Orthop Rel Res, BioMedCentral).

Steven L Haddad

Steven L. Haddad, MD attended college at the University of Michigan, graduating in 1985. He attended The Johns Hopkins University School of Medicine, followed by a residency in orthopaedic surgery at Georgetown University. He completed a fellowship in foot and ankle surgery in 1996 at the Union Memorial Hospital in Baltimore, Fellowship Director Mark S. Myerson, MD. He is currently a senior attending physician with Illinois Bone and Joint Institute, LLC, in Glenview, IL. He has received the James K. Stack Resident Teaching Award at Northwestern University in 2003. He has also received the Roger Mann Award from the American Orthopaedic Foot and Ankle Society in 1996. He has been named Best Lecturer for the Colorado Miller Orthopaedic Review Course two years in 2013 and 2014.

Dr. Haddad has worked extensively with both the American Orthopaedic Foot and Ankle Society (AOFAS) and the American Academy of Orthopaedic Surgeons (AAOS). For the AOFAS, he was Chairman of the Young Physicians Section (2000-2001), Chairman of the Occupational Health Committee (2001-2003), and Chairman of the Education Committee (2007-2009). He is an Assistant Editor for Foot and Ankle International, and Edited the Workers Compensation Manual for the AOFAS. He was Program Chair (2004-2005), and the AMA Delegate for the Young Physicians Section (1998-2003). He developed and chaired the AOFAS Complications Course, and has participated as faculty in numerous AOFAS courses and webinars. Dr. Haddad is the immediate past president of the AOFAS.

Paul Halliwell

Paul is a Consultant Orthopaedic Surgeon at the Royal Surrey County Hospital NHS Trust, Guildford, specialising in trauma and in surgery of the foot and ankle in both adults and children. He is an examiner for the FRCS (Tr and Orth) examination, has a particular interest in training, as Co-director of the BOFAS Principles of Foot and Ankle Surgery Course. He is a Principle Investigator for the Total Ankle Replacement versus Arthrodesis (TARVA) trial. Paul sits on the Education Committee and more recently, became a founder member of the Outcomes Committee, which he represents on the BOA's umbrella Quality Outcomes Committee. In relation to the BOFAS registry, he has been particularly active in work to refine and facilitate Caldicott approval for new users at their own Trusts and is working with BOFAS webmasters to develop downloadable documentation for this.

Bob Handley

Full time Orthopaedic Trauma at John Radcliffe Hospital Oxford since 1994. Trained in Sheffield and Newcastle with Fellowship in Seattle. He is President of the Orthopaedic & Trauma Society.

Rebecca Kearney

Dr Rebecca Kearney graduated from Teesside University with BSc Physiotherapy in 2004. She completed clinical rotations before moving to a clinical academic trauma and orthopaedic team at Warwick Medical School in 2007.

Since joining the team Rebecca has completed an MSc in Trauma and Orthopaedic Surgery (2007-2009), gained an Arthritis Research UK Fellowship to complete a PhD (2009-2012) and obtained a Scholarship with the National Institute for Health and Care Excellence (2010-2011). Presently Rebecca is undertaking a NIHR Clinical Lectureship (2013-2017) in addition to leading research in the field of trauma and orthopaedic rehabilitation through funding from Arthritis Research UK and NIHR.

David Keane

David is a research physiotherapist based with the orthopaedic trauma and rehabilitation research groups at the University of Oxford. He is currently an investigator on the PATH-2 trial, funded by the MRC/NIHR Efficacy and Mechanism Evaluation programme. PATH-2 is a multi-centre randomised trial comparing Platelet Rich Plasma injection with placebo for the treatment of acute Achilles tendon rupture. He is also involved in the Ankle Injury Management (AIM) Trial, funded by the NIHR Health Technology Assessment programme. After qualifying as a physiotherapist in 2003 he has worked clinically in large teaching hospitals and was awarded an MSc in Advanced Physiotherapy from the University of Birmingham in 2011. He completed his DPhil in 2014 at the University of Oxford, which focussed on the optimisation of mobility after severe ankle injury.

Markus Knupp

Markus graduated from the University of Basel in 2001, qualified as an Orthopaedic Surgeon in 2006 and gained his Pedagogic Certificate in 2009.

He has worked in Orthopaedic Surgery since 2002 in the Spine, Surgical Accident and Emergency, Shoulder and also the Hip and Knee team at the University Hospital in Basel.

His research work is varied and includes studies on the administration of adverse event reports of clinical studies of Sandimmun and Sandostatin; the relation between positive findings in perioperative bone-scintigraphies and pT/pN stage in breast cancer patients and renal artery stenosis.

Markus is an active member of various medical societies including -SFAS (Swiss Foot and Ankle Society) and AOFAS (American Orthopaedic Foot and Ankle Society). He is also on the editorial board for Techniques in Foot and Ankle Surgery and Foot and Ankle International.

He has held fellowships at the Austrian Foot and Ankle centre, Vienna, Austria. Host: PD Dr. med. H. Trnka and AOFAS (American Orthopaedic Foot and Ankle Society).

Markus also has a Diploma in machinery engineering (Eidg. Dipl. Maschinenmechaniker).

Roy Lilley

COMMENTATOR AND BLOGGER, FORMER CHAIR NHS TRUST

Roy Lilley built up his first enterprise from scratch, turning it into a multi-million pound turnover. Lilley's position as a former chair of an NHS Trust and a commentator and analyst of healthcare policy has contributed to his unparalleled reach over social media in the NHS. He has been voted the top UK speaker on NHS topics twice and is recognised as an NHS pundit. Lilley is also a publisher of an e-newsletter for NHS managers.

Andy Molloy

Andy Molloy is a Consultant Orthopaedic Foot and Ankle surgeon at University Hospital Aintree. He graduated from the University of Leeds in 1996 and completed his higher surgical training in the Mersey Region, including an emininent international fellowship.

He is an Honorary Clinical Senior Lecturer at the University of Liverpool. He has a keen research interest, with many peer-reviewed publications and presentations. Research has lead to him winning the AO UK trauma prize as well as the Roger Mann award. He is on the teaching faculty for national and international foot and ankle courses and co-chairs a cadaveric operative course.

Having served a term on the Scientific Committee of BOFAS, he is now chair of the Outcomes Committee.

Chris Pearce

Chris grew up in Hong Kong but came back to the UK for school and medical training. He graduated from the University of Manchester in 1998 and then all of his post graduate training was in and around London. Chris had the honour and fortune to have been trained by several of the greats of British foot & ankle surgery and will remain ever thankful to those gentlemen.

He was appointed to set up the foot and ankle service at Hillingdon and Mount Vernon hospitals in 2011 but later that year, the offer to move back to the Far East was too difficult to turn down and he and his family emigrated to Singapore. He now works as a consultant Foot & Ankle surgeon at Jurong Health and is also an Assistant Professor at the National University of Singapore. He remains very active in research and teaching.

Fred Robinson

Having trained in the UK, United States and France, Andrew 'Fred' Robinson took up a post at Addenbrooke's Hospital, Cambridge as a Consultant in Orthopaedics and Trauma.

Fred has run the foot and ankle service at Addenbrooke's since 1999. He served as President of the British Orthopaedic Foot & Ankle Surgical Society in the year 2010/2011. He has published over 30 articles referenced on PubMed. Fred's clinical practice covers the full range of foot and ankle surgery. He treats both trauma and orthopaedic conditions of the foot. He has a special interest in forefoot surgery, diabetic foot care and ankle replacement.

Anthony Sakellariou

Anthony Sakellariou qualified in medicine at University College London in 1987. His surgical training was undertaken in London and Winchester and he became a Fellow of the Royal College of Surgeons (FRCS England) in 1992. He then went on to specialise in orthopaedic surgery gaining the FRCS (Orth) in 1996 and the Certificate of Completion of Specialist Training (CCST) in 1999. His sub-specialty training in foot and ankle surgery was undertaken in Vancouver, Canada and the Mayo Clinic Scottsdale, Arizona. Following this training he was awarded the Certificate of Completion of Advanced Foot and Ankle Training by the American Orthopaedic Foot and Ankle Society. He has previously served on the Education Committee and as Honorary Secretary of BOFAS.

Anthony teaches nationally and internationally on many aspects of foot and ankle surgery. He has co-authored the ankle fracture chapter of the European text book of Orthopaedics and Trauma. He is also an associate editor of the journal 'Foot and Ankle International'. He has worked as a Consultant Orthopaedic Surgeon at Frimley Park Hospital since 1999.

Dishan Singh

Dishan Singh studied medicine at Manchester Medical School and in 1995 was appointed as a consultant at the Royal National Orthopaedic Hospital. He is now director of a multidisciplinary foot and ankle team. He has mentored 24 past fellows who are now in post as consultant orthopaedic surgeons with an interest in foot and ankle surgery.

Dishan is a past secretary and past president of the British Orthopaedic Foot and Ankle Society and is a member of the scientific committee of the European Foot and Ankle Society. He has edited the foot and ankle section of the European textbook of Orthopaedics and Trauma.

His research interests include neurological deformities, bunion surgery, hindfoot deformity and inferior heel pain.

Matthew Solan

Mr Solan's NHS post is at the Royal Surrey County Hospital where he established the UK's first "one-stop" heel pain service. Mr Solan is very active in research and training, having produced 20 scientific publications in the last five years alone on a broad range of themes, with a particular interest in the treatment of intractable heel pain.

He is Program Director for Orthopaedic Surgery Training in Kent, Surrey and Sussex and current Chair of the Scientific Committee.

Mr Solan also holds academic posts: visiting Professor at London South Bank University and visiting lecturer at Surrey University.

Mr Hiro Tanaka

Hiro Tanaka is a consultant orthopaedic surgeon at the Royal Gwent Hospital in Newport. He trained in Wales and gained fellowship experience in Seattle and Dresden. He has a keen interest in surgical training and was the College Tutor for his hospital and is an Honorary Lecturer for the University. He designed the BOFAS course as a member of the Education Committee. He is an FRCS (Tr & Orth) examiner and is on faculty for AO/ASIF. He has an interest in Clinical Leadership having completed the Generation Q programme with the Health Foundation.

Alan Taylor

Alan Taylor, MSc MCSP HCPC Reg is a full time Assistant Professor at the University of Nottingham. His research has investigated blood flow problems in elite athletes. He rode for three years as a professional cyclist, riding the 'Tour of Britain' in 1988. He has a specialist interest in sport, manual therapy and clinical reasoning with a particular emphasis on vascular issues, haemodynamics and risk assessment of the cervical spine.

He is a member of the Ministry of Justice MEDCO sub-committee for steering policy on whiplash associated disorder in the UK. He has written 3 book chapters, over 25 peer reviewed articles and lectures world-wide. He is also an ardent blogger and music journalist.

http://alteredhaemodynamics.blogspot.co.uk/

Rhys Thomas

Rhys Thomas is a consultant orthopaedic surgeon at the University Hospital of Wales. He trained in Wales and gained fellowship training at the University of Toronto. He is the Welsh Regional Representative for the Faculty of Sports and Exercise Medicine and regularly treats professional sports players. He is actively involved in training being an Honorary Lecturer for the university and co-convenes college courses in Cardiff. He has a specialist interest in diabetic foot disorders and sits on national committees.

Claire Topliss

Claire Topliss is a Consultant Orthopaedic Foot and Ankle Surgeon at Morriston Hosptial, Swansea. She graduated from the University of Newcastle upon Tyne Medical School in 1993 and completed her higher surgical training in the Bristol Region. She completed an MD at the University of Bristol on the assessment and management of Pilon fractures. She was awarded the Walter Mercer Gold Medal for achievement in the FRCS (Tr&Orth) and completed her training with an international fellowship in Vancouver.

In her consultant post in Swansea she has worked to standardise trauma and foot and ankle care within the unit. Recent publication of the SMART protocol demonstrates this pragmatic approach to patient care. As faculty, she regularly teaches on the AO Injured Foot Course and has taught on the BOFAS Instructional Course. Out of work, time with family and friends keeps her constantly entertained.

Yves Tourné

Yves Tourné studied medicine at Joseph Fourrier Medical University before completing His Internship at Grenoble Hospitals. He gained his Orthopaedic surgery qualification in 1989 and a Ph.D. in Biomechanics/Biomaterials at the University of Lyon in 1995.

Yves has held a variety of Hospital and University Posts including Orthopaedic Consultant at South Grenoble Hospital working with Pr D Saragaglia between 1991 – 2001. He currently runs a private Foot and Ankle Clinic in Grenoble. Yves Tourné is a member of many Medical Societies including EFAS (European Foot and Ankle Society), EFORT (European Federation Orthopaedics Traumatology) and is a past President of AFCP (Association Francaise de Chirurgie Du Pied).

He has written more than 100 articles referenced in journals including pieces on the surgical treatment of hallux valgus, the treatment of unstable pertrochanteric hip fractures and also chronic ankle instability: biomechanics and pathomechanics of ligaments injury and associated lesions.

British Orthopaedic Foot & Ankle Society

PROFESSOR LESLIE KLENERMAN

A LIFE REMEMBERED

Leslie Klenerman was a founding member of the British Orthopaedic Foot Surgery Society, which later became the British Orthopaedic Foot & Ankle Society. He was President in 1978 & 1990.

He was also a past President of the European Foot & Ankle Society & Foundation Editor of the Journal of Foot and Ankle Surgery in 1996.

This is a series of personal reminiscences by other past Presidents of the Society who knew him.

A Brief Biography:

Born Johannesburg, South Africa 01/05/1929 to parents of Latvian & Lithuanian descent.

Medical training at University of Witwatersrand, Johannesburg: Qualified in 1951.

Married Naomi Sacks in 1954. She predeceased him this year.

Lecturer, Department of Anatomy, Johannesburg: ChM thesis on The Strength of Bone in 1955.

Arrived in the UK 1956: trained at Oswestry, the Royal National Orthopaedic and The Middlesex Hospitals. FRCS Edinburgh & England in 1957.

Consultant Orthopaedic Surgeon, Tottenham Group of Hospitals, London 1967-70.

Consultant Orthopaedic Surgeon Northwick Park Hospital and Clinical Research Centre 1970-1987.

Professor & Head of Department of Orthopaedic Surgery, University of Liverpool & Honorary Consultant Orthopaedic Surgeon to Royal Liverpool and Alder Hey Childrens' Hospitals 1987 -1995.

James Berry Prize, Royal College of Surgeons, England 1990, for functional pedobarographic studies of the dynamics of the human foot.

Senior Demonstrator in Anatomy, Cambridge University 1999-2015.

Author of many papers in peer-reviewed journals & of several books.

Tom Smith writes:

Before 1994 many South African surgeons left for Europe or North America and for a more liberal regime. Many made an outstanding contribution in their adopted countries but few made a greater contribution than Leslie Klenerman.

Leslie had been an outstanding swimmer in his youth and even planned to swim the 18 kilometre length of Windermere in the English Lake District long after retirement. The same degree of determination and dedication characterised his orthopaedic career. He never ceased to read, write and think about the human body and almost until the end of his life taught in the Anatomy Department of Cambridge University.

His special interest was the foot and ankle. He was a founder member of the British Orthopaedic Foot & Ankle Society and acted as secretary for many years. He was elected president of this society as well as the British Orthopaedic Research Society. From its inception he was a leading figure in the European Society of Foot and Ankle Surgeons and was instrumental in the union of this society with the European Federation of Foot & Ankle Surgeons. The new society, the European Foot & Ankle Society, was established in 1998 and before this Leslie was appointed as the first Editor in Chief of Foot & Ankle Surgery in 1996. Subsequently he resigned from this post but in 2008, as a mark of respect for his contribution to foot and ankle surgery, he greatly enjoyed returning as a guest editor for a special volume.

He was always more academic than most European orthopaedic surgeons and in 1970 moved from a routine post in North London to work at Northwick Park Hospital which then had a close relationship with the Medical Research Council. In 1987 he moved to the prestigious chair of orthopaedic surgery in Liverpool. This was a famous department with a tradition going back to Sir Robert Jones and a training program leading to a higher degree in orthopaedic surgery. The degree of M.Ch.Orth (Liverpool) was highly regarded and its reputation was enhanced during Leslie's tenure.

His research interest never flagged. After retirement he had a plan to continue research with his friend Henry Mankin in Boston USA. This never happened but he did publish five books after retirement and was working on an introduction to anatomy at the time of his death. Typically he died soon after travelling to London to hear a lecture at the British Museum.

For a man of such distinction and achievement Leslie was never one for self-promotion. His achievements speak for themselves, as do the number of foot and ankle surgeons who were trained and inspired by him.

Nick Geary writes:

I was introduced to Leslie by Myram Golberg, the head of Medical services for Marks & Spencer, in 1984, when I was looking for career advice in my search for a senior registrar appointment. Together we applied for a NW Thames regional research grant, to look into risk factors in Diabetic Foot Ulceration. I worked on this project for 2 years, Jan 1985 to Dec 1986. During this time, I kept up my clinical skills by assisting in Leslie's NHS clinics, occasional NHS operating lists, and assisting Leslie every Saturday morning for 2 years, with his private operating list. I learned so much from Leslie and this confirmed my lifelong interest in Foot & Ankle surgery. I had discussed a research idea with Leslie. In June he told me that he had put me down to talk at BOFSS in November. I had not even got the material manufactured for the research. He was very good at a mixture of encouragement and pressure. I completed and presented the results of the research on time!

Leslie was a great mentor. I was falsely accused of interfering with a computer in the Vascular lab and banned from using the lab. I was incensed and wanted to complain about this injustice. Leslie's advice was that whatever the rights and the wrongs of the situation, he felt "no one would remember the rights and the wrongs of the war, only that you were there when the war started". This was very good advice that I have passed on to my trainees over the years.

Naomi and he were very close. Leslie and I created an instructional video on the application and removal of a Total Contact Cast. We had already done a test video. In this Leslie's performance was a little stiff as he read from the autocue and he lacked facial expression. I arrived at the Klenerman household, from where Leslie was to drive us to the studio in Southend. It was an insight into the relationship to hear Naomi reminding him to comb his hair and blink and smile from time to time. It gave me in insight in to the human side of this great figure. The resulting final video was much better.

When Naomi had a meniscal problem in her knee, Leslie booked her in as a private patient for a meniscectomy with then one of the country's foremost senior knee surgeons. I was detailed to be available as an assistant if required. Unfortunately, Naomi fell down the stairs on leaving the hospital and sustained a Colles fracture!

Leslie set up a network of research fellows working on separate projects under separate research grants. We only gradually learned about the other fellows. During my tenure there was Ed Parnell, Barry Ferris, and myself.

Through his personality and contacts with friends like Professor Robert Mahler, Professor Heinz Wolf and John Lewis, he got access to facilities in the Clinical Research Centre (CRC) for his research fellows.

Leslie supported me throughout the latter part on my research in my attempts to find a Senior Registrar post. When I was finally shortlisted for a local post, on the Charing Cross rotation, he noticed irregularities in the membership of the appointment committee. He put in a formal complaint and had the committee reconstituted. He confided in me that, years ago, he had been shortlisted for a post at Barts. He discovered he was the only candidate not invited to the "trial by Sherry". He put in a formal complaint against this discrimination. He still did not get appointed to Barts and ended up with an appointment I believe at Prince of Wales Tottenham. He subsequently applied for and was appointed to Northwick Park Hospital. He really came into his own as the head of department after the untimely death of Lester Low in 1982.

I was successfully appointed to the Charing Cross Senior Registrar Rotation. Whilst at Stanmore, I was delighted to be approached by George Dowd to relay a request from Howard Beddow in Liverpool, for my opinion on Leslie's paediatric experience. I gave him top marks!

He was subsequently appointed to replace Robert Owen as Professor of Orthopaedics in Liverpool.

He was an extremely popular head of department there. I was fortunate to be appointed as a consultant nearby on the Wirral. As a newly appointed consultant it was invaluable to have such an experienced local opinion to consult on the management of difficult cases. I have, in my own way, tried to emulate my mentor in setting up two advanced surgical training posts in Foot & Ankle Surgery on the Wirral, providing the same "after sales support" for which Leslie was famous with his fellows.

My friend and colleague, Patrick Laing moved with Leslie to Liverpool to continue our Diabetic research. I invited Leslie, Naomi, Patrick and Sally for dinner. Patrick and I ended up being co-opted to run an EFAS meeting in Liverpool. We also discovered that Leslie had an incompetent mitral valve and he was going for open heart surgery the following week for a papillary muscle transfer. I asked him how he had decided on his surgeon. He said he had researched the literature and discussed with his cardiology colleagues. There were 2 contenders. One had just been made a professor and had published a textbook. Leslie's comment: "so he is well out of practice ", and he chose the other. Great insight from a professor!

Leslie and Naomi together did great things for the Liverpool M.Ch.Orth Course. Leslie recruited all the local consultants to lecture on the course. Naomi arranged the local consultants' wives to make all the candidates' wives welcome at coffee mornings and the post course dinner.

Naomi became known as the Welsh Don Quixote, "tilting at windmills". She successfully ran a one women campaign to prevent the installation of a windfarm in their picturesque valley.

On his retirement, Leslie and Naomi moved to Cambridge. He continued to attend the British Orthopaedic Study group in Zurs from time to time. Leslie was always a keen swimmer. He liked to have the pool to himself first thing in the morning. Tom Smith out of devilment, used to get up to be in the pool when Leslie arrived. Leslie would try to get down 10minutes earlier each day to have some time alone in the pool. Tom would however get up 10 minutes earlier each day to be there ahead of Leslie. The competition ceased when Tom decided that 05:10 am was as early as he was prepared to get up!

I owe my career and lifelong interest in foot and ankle surgery to this great man. I am not alone; he has added to so many people's lives. He will be greatly missed.

Tony Henry writes:

I first met Leslie Klenerman at a Meeting of BOFSS (British Orthopaedic Foot Surgery Society, which was later renamed British Orthopaedic Foot and Ankle Society BOFAS), in the mid-1980s, when I think John Angel was President. Leslie was a prominent member, indeed a founding member, of the Society, and at that time was a senior orthopaedic surgeon at Northwick Park Hospital, in Harrow, Middlesex. One of Leslie's colleagues at Northwick Park was Ian Fyfe, whom I knew well. Ian spoke highly of Leslie. Ian told me of Leslie's impending move to the Professorial Chair of Orthopaedics in Liverpool in 1987, as Leslie had a strong background in research. Leslie came very regularly to our BOFSS meetings.

In 1993 I invited Leslie to give the Naughton Dunn Lecture to the Naughton Dunn Club (the Orthopaedic Club of the West and East Midlands, based in Birmingham). He gave a marvellously illustrated talk on foot and ankle surgery then, at the Meeting in the Royal Orthopaedic Hospital in Birmingham. He was a very clear and lucid Speaker, and a great teacher. He and his wife Naomi came to the Club Dinner afterwards, at the whole meeting was a great success.

In 1996 he hosted a major International Foot and Ankle Meeting in Liverpool. At that time there were two separate European foot and ankle societies, the European Federation of Foot and Ankle Surgeons (EFFAS), and the European Society of Foot and Ankle Surgeons (ESFAS), each of which had separate meetings.

Leslie was one of the driving forces at that Liverpool meeting, in arranging a merger between these two Societies, which they were happy to undergo, and that is how EFAS (European Foot and Ankle Society) was born. Leslie was I think EFAS's first President, and founding member. Leslie also inaugurated at that Liverpool meeting, the official Journal of EFAS. The journal "Foot and Ankle Surgery" had been the official Journal of ESFAS, but in 1998 it became the official Journal of EFAS.

Since then we from BOFAS, have had two further presidents of EFAS, Michael Stephens from Dublin, and Ian Winson from Bristol, as well as several other British surgeons elected as Council Members to EFAS. Leslie was rightly proud of each of them, as we all are.

Leslie had a certain presence about him, and whenever he spoke at an Orthopaedic meeting, everyone listened, as he was regarded as an "eminence grise" or elder statesman, in Foot and Ankle circles. I only met him occasionally, but he was always pleasant, agreeable, and kind to me.

I wrote to Leslie after his wife Naomi sadly died some months ago. He kindly wrote back saying how brave Naomi have been throughout her long illness. I got the impression from his letter, that he was missing her enormously. And now, they are re-united.

Chris Walker writes:

In 1987, as an Orthopaedic Registrar at UCH, SR jobs were few and far between and a spell as a Research Fellow seemed to be the best way forward. As I had trained in Liverpool, Ernie Kirwan suggested I go and talk to the new Professor in Liverpool, Leslie Klenerman. The trip back to my home city regarding a job after eight years in London was strange to say the least but the welcome "Prof" gave me left me in no doubt that time in research would be time well spent. How right he was. The 7.30 research meetings every Monday morning started the week off for me. He provided the support and advice when needed but also cut you plenty of slack to follow your ideas, make some mistakes but progress along the knowledge ladder. The whole department buzzed as fellows, research assistants and technicians came and went. As his Lecturer, I was introduced to foot and ankle surgery and it is testimony to his scientific approach to all that he did, that this has become my main subspecialty to this day. He and Naomi took the MCh(Orth) students well and truly under their wings. They were regularly invited to their house, so they could meet local Registrars and Consultants, ensuring they felt part of the departmental "family." He suffered fools badly and scruffy registrars, even worse. I still remember the time he ordered a junior off the wards because he wasn't wearing a tie! How things have changed. I was appointed Consultant at the Royal Liverpool University Hospital in 1994, taking on the hip service of John Monk and the Prof's foot and ankle patients. The complexity of referrals reflected the esteem with which the North West Consultants held the service set up by Prof. However, fortunately for me, he remained close to Liverpool, seeing patients privately but always happy to discuss and help with the problem cases which were coming my way. As the Consultant years have gone by, his advice and approach to the science and practice of orthopaedic surgery have remained with me like a beacon of common sense as new ideas develop and old ideas fall away. His need to try, but also test, the new is even more relevant now as our practices come under greater scrutiny. In 2008, Leslie and Naomi were my Presidential guests at the BOFAS meeting in Liverpool. How else could I thank the two people who had made us so welcome, guided my career and become friends to Cathy and myself.

Ravi Kunzru writes:

I got to know Leslie properly after I joined the British Orthopaedic Foot Society, by invitation, in 1979. A quiet, unassuming and methodical man, he hid his intellectual light under the proverbial bushel. I succeeded him as Hon. Secretary when he resigned after a disagreement with the outgoing President, David Rowley. Leslie was

very helpful to me right from the beginning of my term of office.

Leslie and I both had an interest in Medical History. Our friendship grew further through the History of Medicine Section of the RSM. Leslie's seminal work, "The Evolution of Orthopaedic Surgery" remains a landmark publication. Concision not sacrificing clarity or important historical fact, the book is a classic.

Patrick Laing writes:

Prof, as he always was to me, even in retirement, was first and foremost a great intellect and so immensely knowledgeable. He enjoyed surgery but research was his raison d'etre as he loved the intellectual stimulus. Prof couldn't imagine a teaching hospital without Consultants prepared to produce papers and further the art of Orthopaedic Surgery, not just practice it. As such Liverpool was the perfect place to do research and indulge his love of teaching with the MChOrth course. The course flourished under his drive and direction. I first encountered him at Northwick Park when Nick Geary went off to Charing Cross to become a senior Registrar and Leslie needed somebody to continue the research. I offered my services and he took me on. Prof always judged people as he found them and if you put the work in then he rewarded you with tremendous loyalty. You had to work hard and you had to think. I remember, early on in my research, coming back from a meeting and he didn't ask, how was the meeting, he asked 'Who interesting did you meet?' - a lesson of course that meetings are much more talking to people and networking than listening to lectures. He kept you on your toes and once submitted an abstract for a research presentation without my knowledge. The first I knew was when I was informed it had been accepted for a Podium presentation - you just smiled and made sure you were ready. He definitely had a sense of humour! After he retired Sally and I kept in touch with Leslie and Naomi when they lived in Glyn Ceiriog when he would go swimming every morning in his pool, walk the hills and Naomi fought the wind farms. I, like many others, owed so much to this quiet, thoughtful, intellectual giant who absorbed so much knowledge and gave so much back to all those who listened.

Jim Barrie writes:

I learnt a lot from him about diabetic foot care as a visitor to his foot and ankle clinic at Royal Liverpool in the late 1980s. It was stimulating to realise that there were orthopaedic surgeons who thought critically and constructively about the care of foot and ankle problems and this certainly encouraged me in the pathway I was already taking towards foot and ankle as a specialty. He also encouraged me to take on the role of reviewer for the British JBJS.

Magdi Greiss writes:

In my Presidency year 2003, BOFSS dinner at Low Wood, Windermere was attended by some 225 delegates and partners. Tables were allocated and each table was named after a BOFSS former President. Leslie marched towards me and I could see he was disgruntled!! I had totally forgotten to name a table after him! This was hastily resolved with a piece of A4 paper and marking pen! I never stopped feeling guilty about it!!

Ian Stephen writes:

I first met Les in May 1987 when we were both attending the 8th Combined Meeting of the Orthopaedic Associations in Washington DC. At that time, I was a Consultant only three years in post while he was a newly appointed Professor. However, we both enjoyed an early morning swim and we encountered one another at the entrance to the swimming pool of the rather grand conference hotel. The pool was deserted and the gate was locked, presumably because the hotel authorities disapproved to unsupervised swimming. We looked at one another, and then both vaulted the gate. This resulted in righteous indignation from the pool attendants, who appeared as if from nowhere, but we ploughed on regardless. We continued to meet each morning of the meeting, although I singularly failed to keep up with him in the pool.

We remained friends thereafter, despite the difference in our status. I never encountered him in a clinical setting, but we met with increasing frequency as I developed an interest in foot and ankle surgery. He was unfailingly kind, helpful & supportive throughout our friendship; I shall miss his ready wit & impish sense of humour.

BOFAS

British Orthopaedic Foot & Ankle Society

Annual Scientific Meeting 2015

Programme 2015

BOFAS 2015 - Exhibitor Listings

Stand	Company
1	Wright Medical
2	Biovation UK Ltd
3	OrthoSolutions
4	Stryker
5	MatOrtho
6	DePuy Synthes
7	Sovereign Medical Ltd
8	Zimmer Biomet
9	Lavender Medical
10	Integralife
11	Bonesupport
12	Arthrex
13	Smith & Nephew
14	Arthrodax
15	DJO UK Ltd
16	EMS SA
17	Medartis Ltd
18	Bauerfeind UK
19	Biocomposites Ltd
20	Implants International
21	Int2Med
22	Bioventus Global
23	FirstKind Ltd
24	Curve Beam
25	Lockdown Medical Ltd
26	Vertec Scientific Ltd
27	Hospital Innovations Ltd
28	OPED UK Ltd

Key to stands

Gold stand
6m x 2m

Silver stand
4m x 2m

Bronze stand
2m x 2m

BOFAS
British Orthopaedic Foot & Ankle Society

GUILDFORD G-LIVE 2015

Day 1 Wednesday 11th November

08.00 - 08.45 **Registration & Coffee**

08.45 - 09.00 **Welcome to BOFAS 2015** — Anthony Sakellariou

09.00 - 10.30 **Symposium 1: Calcaneus fractures and hindfoot deformities**
Chairs: Donald Bohay & Chris Blundell

09.00 - 09.10	Calcaneus fractures: where are we now?	Nikos Gougoulias
09.10 - 09.20	Incidence, consequences and management of calcaneal malunions	Markus Knupp
09.20 - 09.30	Correction of malunited calcaneus fractures: beyond the bone block	Steven Haddad
09.30 - 09.45	**Discussion**	
09.45 - 09.55	Ball and socket ankle: types and management	Bernhard Devos-Bevernage
09.55 - 10.05	Correcting severe cavo-varus: are fusions really the wrong approach?	Steven Haddad
10.05 - 10.15	Correcting the flat foot: should arthroereisis be revisited?	Andy Goldberg
10.15 - 10.30	**Discussion**	

10.30 - 11.00 **Tea/Coffee (Upper & Lower Foyer)**

11.00 - 12.30 **Free Papers 1**
Chairs: Roland Russell & Jitendra Mangwani

12.30 - 13.30 **Lunch (Upper & Lower Foyer)**

13.30 - 15.00 **Symposium 2: Fracture union and grafting**
Chairs: Steven Haddad & Mark Davies (Sheffield)

13.30 - 14.00	Unified fracture theory	David Elliott and Bob Handley
14.00 - 14.10	Orthobiologics: are they of any use?	Callum Clark
14.10 - 14.20	Why I don't graft	David Elliott
14.20 - 14.30	Why I do graft	Bernhard Devos-Bevernage
14.30 - 15.00	**Discussion**	

15.00 - 15.30 **Tea/Coffee (Upper & Lower Foyer)**

15.30 - 16.00 **Keynote Speaker 1: Markus Knupp**
'Use of osteotomies in the management of ankle joint OA'

16.00 - 17.30 **Instructional 1: Ankle fractures**
Chairs: Jim Barrie & Matt Solan

16.00 - 16.20	How to assess stability: which ones need fixing	Nikos Gougoulias
16.20 - 16.30	Posterior malleolus fractures: which ones to fix and how	Mark Davies (Sheffield)
16.30 - 16.40	Syndesmosis: when does it need stabilising and how	Anthony Sakellariou
16.40 - 16.50	Medial malleolus fractures: are they all the same?	James Davis
16.50 - 17.00	Osteoporotic ankle fractures: tips and tricks	David Elliott
17.00 - 17.30	**Discussion**	

17.30 - 19.00 **Poster Viewing & Networking Reception**

Day 2 Thursday 12th November

08.30 - 13.00 **Workshops**

08.30 - 13.00 **MICA @ BOFAS 2015 Saw bone workshop demonstrating all MICA surgical techniques**
The Rock Room
Wright Medical (Stand 1)

08.30 - 09.30 **Cartiva Wet Lab Workshop** – The Classical Room
Biovation (Stand 2)

08.30 - 13.00 **STAR Total Ankle Replacement: Proven, Trusted, Supported**
Stryker (Stand 4)

09.30 - 11.10 **Cartiva Wet Lab Workshop** – The Classical Room
Biovation (Stand 2)

10.30 - 12.30 **Holistic Approach to Restoring Motion 10.30-12.00pm** – The Dance Room
Ortho Solutions (Stand 3)

11.10 - 12.30 **Cartiva Wet Lab Workshop** – The Classical Room
Biovation (Stand 2)

09.00 - 12.20 **AHP Session** – Main Auditorium

09.00 - 13.00 **GP Session** – The Glass Room (1st Floor Reception rooms)

09.00 - 10.30 **Difficult Cases Session** – Bellerby Studio (Lower Ground Floor)
Chairs: Nilesh Makwana & Hiro Tanaka

10.30 - 11.00 **Tea/Coffee (Upper & Lower Foyer)**

11.00 - 12.20 **Risk Information, Consent and Montgomery** – Doctor informs, patient decides
Chair: Anthony Sakellariou

11.00 - 11.10	Development of the law on risk information and consent - a surgeon's view	Dishan Singh
11.10 - 11.30	How should a surgeon inform & obtain consent – a barrister's view	Dr Peter Ellis
11.30 - 11.40	What changes should surgeons make to their practice?	Paul Cooke
11.40 - 11.50	Patient information, dialogue, SPANIARD acronym & request for treatment	Dishan Singh
11.50 - 12.20	**Discussion**	
12.20	Close	

12.30 - 13.00 **Keynote Speaker 2: Donald Bohay** – Main Auditorium
'Treatment of the chronically degenerate Achilles' tendon'

13.00 - 14.00 **Lunch (Upper & Lower Foyer)**

14.00 - 15.30 **Free Papers 2**
Chairs: Tim Clough & Robert Clayton

15.30 - 16.45 **Symposium 3: Achilles' tendon**
Chairs: James Calder & Rick Brown

15.30 - 15.40	Rupture: 'why I would have mine surgically repaired'	Chris Pearce
15.40 - 15.50	Rupture: 'why I would have mine managed functionally'	Claire Topliss
15.50 - 16.00	**Discussion**	
16.00 - 16.15	How I manage insertional Achilles' tendinopathy – USA	Steven Haddad
16.15 - 16.30	How I manage insertional Achilles' tendinopathy – Europe	Jean-Luc Besse
16.30 - 16.45	**Discussion**	

16.45 - 17.15 **Tea/Coffee (Upper & Lower Foyer)**

17.15 - 18.15 **Instructional 2: Ankle 'instability'**
Chairs: Kartik Hariharan & James Davis

17.15 - 17.25	The Brostrom in 2015: when and how ?	Donald Bohay
17.25 - 17.35	When to reinforce the Brostrom and how ?	Yves Tourné
17.35 - 17.45	Is there still a need for non-anatomic repair ?	Hiro Tanaka
17.45 - 17.55	The subtle cavus foot; does it need an osteotomy ?	Markus Knupp
17.55 - 18.05	Acute syndesmotic injury in the athlete	James Calder
18.05 - 18.15	Role of arthroscopy in the management of syndesmotic instability	Rhys Thomas
18.15 - 18.30	**Discussion**	

18.30 - 19.15 **Keynote Speaker 3: Steven Haddad** – Main Auditorium
'Total ankle arthroplasty: Making the unpredictable predictable'

20.30 **BOFAS Annual Dinner (Mercedes-Benz World)**

Day 3 Friday 13th November

08.00 - 08.40 **Update 1: Outcomes: Any progress?**
Chairs: Ian Winson & Stephen Bendall

08.00 - 08.10	ProOne personal	Matt Solan
08.10 - 08.20	Hospital Registry	Paul Halliwell
08.20 - 08.30	BOFAS Registry	Andy Molloy
08.30 - 08.40	NJR/Tarva trial update	Andy Goldberg

08.50 - 09.00 **Update 2: VTE Prophylaxis in F&A Surgery**
Chairs: Ian Winson & Stephen Bendall

08.50 - 09.00 VTE prophylaxis in F&A surgery: A US perspective — Donald Bohay

09.15 - 09.35 **Update 3: Diabetic foot management in the UK**
Chair: Chris Walker & Venu Kavarpathu

09.15 - 09.25	The current state of affairs	Fred Robinson
09.25 - 09.35	The desired state of affairs	Matt Solan
09.35 - 09.45	BOA Presidential Address to BOFAS	Tim Wilton

09.45 - 11.15 **Free Papers 3**
Chairs: Matt Solan & Anthony Perera

11.15 - 11.45 **Tea/Coffee (Upper & Lower Foyer)**

11.45 - 13.00 **Current Debates & Challenges**
Chairs: David Redfern & Dishan Singh

11.45 - 12.30 **1. Debates**

11.45 - 11.55	A philosophy on bunions in 2015	Donald Bohay
11.55 - 12.05	Scarf evolution: one screw, no screws… plate	Bernhard Devos-Bevernage
12.05 - 12.15	DMMO: What's the evidence? Does it have a role?	Jean-Luc Besse
12.15 - 12.30	**Discussion**	

12.30 - 13.00 **2. Challenges**

12.30 - 12.40	Navicular fractures: stress and otherwise	Steven Haddad
12.40 - 12.50	Sesamoid problems: is there a logical algorithm for managing them?	Mark Davies (London)
12.50 - 13.00	**Discussion**	

13.00 - 13.45 **Lunch (Upper & Lower Foyer)**

13.15 - 13.45 Exhibitors Meeting - The Glass Room (1st Floor Reception Rooms) — Anthony Sakellariou
Company Sponsors Only

13.45 - 13.55 Best Paper/Best Poster Prize Presentations — Anthony Sakellariou/Matt Solan

14.00 - 14.30 **Keynote Speaker 4: Roy Lilley**
'RITE NHS'

Close of Scientific Meeting

14.30 - 16.35 **BOFAS AGM** — Council

14.30 - 14.40	President Report
14.40 - 14.50	Ed Comm Report
14.50 - 15.00	Sci Comm Report
15.00 - 15.10	Out Comm Report
15.10 - 15.20	EFAS Report
15.20 - 15.30	Coding Report
15.30 - 15.40	Webmaster Report
15.40 - 15.50	Treasurer Report
15.50 - 16.00	Accountant
16.00 - 16.10	Soap Box – time for floor to bring matter to attention AGM
16.10 - 16.20	New Members Vote/Council and President Elect Appointments

16.20 - 16.35 **Presidential Handover to Bill Harries** — Anthony Sakellariou

BOFAS
British Orthopaedic Foot & Ankle Society

Annual Scientific Meeting 2015

FREE PAPERS SUMMARY

FREE PAPERS

Wednesday, 11th November 2015

CHAIRS: Roland Russell, Jitendra Mangwani

FP1: 11.00

Is Stimulan (synthetic calcium sulphate tablets impregnated with antibiotics) superior in the management of diabetic foot ulcers with osteomyelitis compared to standard treatment?

M. Raglan[1], S. Dhar[2], B. Scammell[2]
[1]Nottingham university Hospital, Trauma and Orthopaedics, Nottingham, United Kingdom,
[2]Nottingham university Hospital, Nottingham, United Kingdom

FP2: 11.06

Minimally Invasive Surgical Techniques for Diabetic Foot and Ankle Pathology

R. Miller[1]
[1]Hairmyres Hospital, Orthopaedics, Glasgow, United Kingdom

DISCUSSION: 11.12

FP3: 11.17

The Lisfranc Push-Up Stress-Test

G. Smith[1], C. Loizou[2]
[1]Norfolk and Norwich University Hospitals, Trauma and Orthopaedics, Norwich, United Kingdom,
[2]Norfolk and Norwich University Hospital, Norwich, United Kingdom

FP4: 11.23

Percutaneous versus open treatment of unstable tarsometatarsal injuries

R. Walter[1], K. Trimble[2], M. Westwood[2]
[1]North Bristol NHS Trust, Department of Trauma and Orthopaedics, Bristol, United Kingdom,
[2]Derriford Hospital, Department of Trauma and Orthopaedics, Plymouth, United Kingdom

DISCUSSION: 11.29

FP5: 11.34

Closing the gap on Achilles Tendon Rupture: A Cadaveric Study quantifying the tendon apposition achieved with commonly used immobilisation practices.

R. Collins[1], C. Loizou[1], A. Sudlow[1], G. Smith[1]
[1]Norfolk and Norwich University Hospital, Norwich, United Kingdom

FP6: 11.40

Anatomy of the Posterior Malleolar Fracture

W. Marlow[1], A. Molloy[1], L. Mason[1]
[1]University Hospital Aintree, Liverpool, United Kingdom

DISCUSSION: 11.46

FP7: 11.51

Rationalising the use of distal fibula locking plates in ankle fracture fixation

P. Vaughan[1], G. Salt[1], V. Thorisdottir[1], S. Deakin[1]
[1]West Suffolk Hospital, Trauma & Orthopaedics, Bury St. Edmunds, United Kingdom

FP8: 11.57

Fibula Rod fixation in unstable ankle fractures, Experience at level one Major Trauma Centre

N. Mushtaq[1], B. Al Obaidi[1], F. Iranpour[1,2], R. Bhattacharya[1]
[1]St Mary's Hospital - Imperial College Healthcare NHS Trust, London, United Kingdom,
[2]Imperial College London, London, United Kingdom

DISCUSSION: 12.03

FP9: 12.08

Development of an intraoperative radiographic measure to assess syndesmotic reduction in ankle fractures.

C.L. Loizou[1], A. Sudlow[1], R. Collins[1], D. Loveday[1], G. Smith[1]
[1]Norfolk & Norwich University Hospital, Trauma & Orthopaedics, Norwich, United Kingdom

FP10: 12.14

Stable versus unstable grade II high ankle sprains – a prospective study predicting the need for surgical stabilization and time to return to sports

J. Calder[1,2], R. Bamford[3], G. McCollum[4]
[1]Fortius Clinic, London, United Kingdom,
[2]Imperial College London, London, United Kingdom,
[3]England Rugby Football Union, London, United Kingdom,
[4]UCT Private Academic Hospital, Cape Town, South Africa

DISCUSSION: 12.20

LUNCH: 12.30

FREE PAPERS

Thursday, 12th November 2015

CHAIRS: Timothy Clough, Robert Clayton

FP11: 14.00

Patient Reported Outcome Measures for Common Foot and Ankle Conditions – The effect of disease and the benefit of surgery

L. Barr[1], C. Loizou[1], G. Smith[1], D. Loveday[1]
[1]Norfolk & Norwich University Hospital, Norwich, United Kingdom

FP12: 14.06

The Beagle Böhler Walker – Reduction of Load Transmission in a below Knee Cast

J. Berwin[1,2], T. Burton[2], J. Taylor[2], A. McGregor[2], A. Roche[1]
[1]The Chelsea and Westminster Hospital, Trauma & Orthopaedic Surgery, London, United Kingdom,
[2]Charing Cross Hospital, Department of Musculoskeletal Biodynamics, London, United Kingdom

FP13: 14.12

Arthroscopic subtalar arthrodesis through the two portal sinus tarsi approach: a series of 77 cases

R. Walter[1], M. Butler[2], S. Parsons[2]
[1]North Bristol NHS Trust, Department of Trauma and Orthopaedics, Bristol, United Kingdom,
[2]Royal Cornwall Hospitals NHS Trust, Department of Trauma and Orthopaedics, Truro, United Kingdom

DISCUSSION: 14.18

FP14: 14.30

Supramalleolar Osteotomy: A joint-preserving option for advanced ankle osteoarthritis

P. Karpe[1], M. Claire[1], R. Limaye[1]
[1]North Tees and Hartlepool NHS Trust, Orthopaedics, Stockton on Tees, United Kingdom

FP15: 14.36

The Zenith Total Ankle Replacement: Early to Mid-term Results in 155 Cases

R. Walter[1], W. Harries[1], S. Hepple[1], I. Winson[1]
[1]North Bristol NHS Trust, Department of Trauma and Orthopaedics, Bristol, United Kingdom

FP16: 14.42

Continuous popliteal sciatic nerve blockade after major ankle and hindfoot surgery using elastomeric pumps leads to shorter hospital stay and high patient satisfaction.

F. SHIVJI[1], S. Weston[1], T. Addison[1], R. Erskine[1], S. Milner[1]
[1]Royal Derby Hospital, TRAUMA & ORTHOPAEDICS, Derby, United Kingdom

DISCUSSION: 14.48

FP17: 15.00

Surgical management of Failed Total Ankle Replacements in a Tertiary Referral Centre

J. Humphrey[1], A. Pervez[1], R. Walker[1], A. Abbasian[1], S. Singh[1], I. Jones[1]
[1]Guy's and St Thomas' Hospital, London, United Kingdom

FP18: 15.06

Medium term follow-up of the Corin Zenith Total Ankle Replacement in an independent non-inventor cohort.

V. Sinclair[1], T. Millar[1], S. Garg[1]
[1]University Hospitals Morecambe Bay, Lancaster, United Kingdom

FP19: 15.12

Revision Total Ankle Replacement to a Hind-Foot Fusion with a Nail; The Experience from Leeds

A.A. Ali[1], P. O'Connor[1], N. Harris[1]
[1]Leeds Teaching Hospitals NHS Trust, Department of Trauma & Orthopaedics, Leeds, United Kingdom

DISCUSSION: 15.18

FREE PAPERS

Friday, 13th November 2015

CHAIRS: Matt Solan, Anthony Perera

FP20: 09.45

Platelet rich plasma versus corticosteroid injection for plantar fasciitis: A comparative study.

K. Jain[1], T. Clough[1]
[1]Wrightington Hospital, Foot and Ankle, Wigan, United Kingdom

FP21: 09.51

Malignant Bone Tumours of the Foot: a 30 year experience

A. Ramasamy[1], N. Bali[1], S. Evans[1], R. Grimer[1]
[1]Royal Orthopaedic Hospital, Birmingham, United Kingdom

FP22: 09.57

Gastrocnemius tightness (GT)in Persons With and Without Foot and Ankle Pathology. This study used the Lunge test to measure the difference between ankle dorsiflexion with the knee flexed and extended in persons with and without foot and ankle pathology. This may help us devise a weightbearing test for GT.

S. Chambers[1], A. Goldberg[1], N. Cullen[1], D. Singh[1]
[1]Royal National Orthopaedic Hospital, Foot and Ankle Unit, Stanmore, United Kingdom

FP23: 10.03

Investigating patient reported outcomes and experience for First metatarsal scarf+/- akin osteotomy for hallux-valgus.

K. Ahmad[1], A. Pillai[1], K. Somasundaram[1], A. Fox[1], N. Kurdy[1]
[1]University Hospital of South Manchester, Trauma and Orthopaedic Surgery, Manchester, United Kingdom

DISCUSSION: 10.09

FP24: 10.20

Mid-term Results of a First Generation Metatarsophalangeal Hemiarthroplasty System for the Treatment of Hallux Rigidus

L. McEntee[1], M.-C. Killen[1], P. Karpe[1], R. Limaye[1]
[1]University Hospital North Tees, Orthopaedic Department, Stockton on Tees, United Kingdom

FP25: 10.26

Metallic hemiarthroplasty for the treatment of end stage hallux rigidus: mid-term implant survival, functional outcome and cost analysis

G. Dall[1], N. Clement[1], D. McDonald[1], I. Ahmed[1], A. Duckworth[1], H. Shalaby[1], J. McKinley[1], Edinburgh Foot and Ankle
[1]NHS Lothian, Orthopaedics, Edinburgh, United Kingdom

FP26: 10.32

Prospective, Randomized, Multi-Centered Clinical Trial Assessing Safety and Efficacy of a Synthetic Cartilage Implant versus First Metatarsophalangeal Arthrodesis in Advanced Hallux Rigidus

J. Baumhauer[1], D. Singh[2], M. Glazebrook[3], C. Blundell[4], G. Wansbrough[5], G. de Vries[6], I. Le[7], D. Nielson[8], E. Petersen[9], A. Sakellariou[10], M. Solan[11], A. Younger[12], T. Daniels[13], M.O.T.I.O.N. Research Team
[1]URMC Rochester, Rochester, United States,
[2]Royal National Orthopaedic Hospital, Foot and Ankle Unit, Stanmore, United Kingdom,
[3]QE II Health Sciences Centre, Halifax, Canada,
[4]Northern General Hospital, Sheffield, United Kingdom,
[5]Torbay Hospital, Torbay, United Kingdom,
[6]Everett Chalmers Hospital, Fredericton, Canada,
[7]Calgary General Hospital, Calgary, Canada,
[8]St George's Hospital, London, United Kingdom,
[9]University of Warwick Alberta, Edmonton, Canada,
[10]Frimley Park Hospital, Frimley, United Kingdom,
[11]Royal National Orthopaedic Hospital Surrey County Hospital, Guildford, United Kingdom,
[12]St George's Hospital Paul's Hospital, Vancouver, Canada,
[13]St George's Hospital Michael's Hospital, Toronto, Canada

DISCUSSION: 10.38

FP27: 10.48

Outcomes following surgical excision of interdigital Morton's neuroma: a prospective study

V. Bucknall[1], D. Rutherford[2], D. Macdonald[2], H. Shalaby[1], J. McKinley[1], S. Breusch[1]
[1]Royal Infirmary of Edinburgh, Department of Trauma and Orthopaedic Surgery, Edinburgh, United Kingdom,
[2]University of Edinburgh, Edinburgh, United Kingdom

FP28: 10.54

Plantar plate reconstruction of the metatarsophalangeal joint using the EDL tendon.

E. Ballas[1], J. Jalali[1], P. Briggs[1]
[1]Freeman Hospital, Orthopaedics, Newcastle upon Tyne, United Kingdom

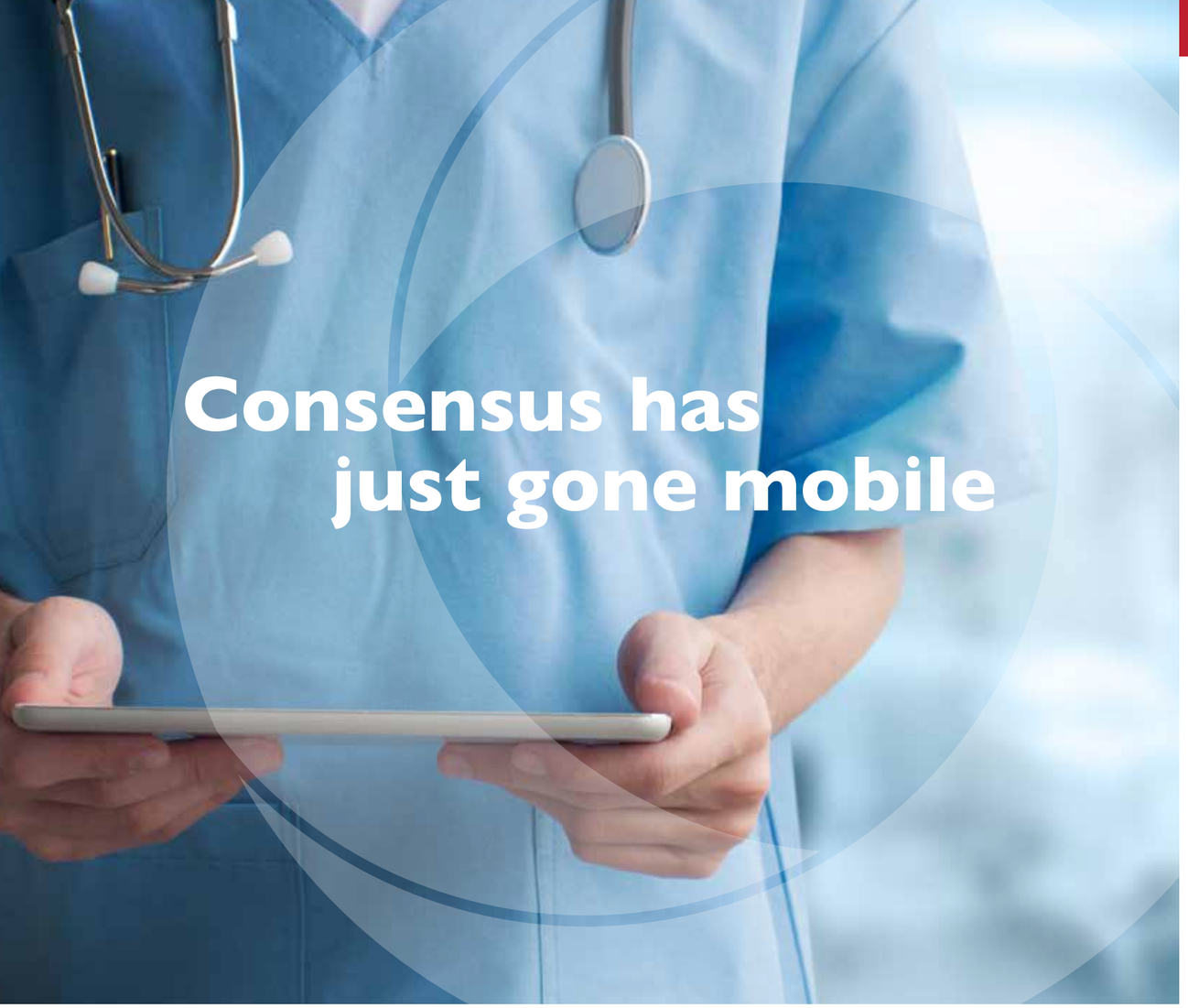
FP29: 11.00

The use of the Smart Toe implant for proximal interphalangeal arthrodesis in the lesser toe: A case series

D. Trigkilidas[1], R. Drabu[1], A. Keightley[1], P. Halliwell[1]
[1]Royal Surrey County Hospital, Guildford, United Kingdom

DISCUSSION: 11.06

Coffee 11.15



THE ROUND TABLE

The Round Table Consensus meeting has been run successfully in the UK since 2010. Specialist Foot and Ankle surgeons who have attended the meeting have debated numerous clinical topics over the last five years and their debates, conclusions and consensus opinions have been recorded in annual publications. This year the proceedings from the last five years meetings have been made accessible on a new website and a mobile app, with searchable content and many other features.

To register for the mobile application:

visit www.the-round-table.co.uk or
visit the OrthoSolutions stand

BOFAS

British Orthopaedic Foot & Ankle Society

Annual Scientific Meeting 2015

FREE PAPERS ABSTRACTS

FREE PAPERS

Wednesday, 11th November 2015

FP1

Is Stimulan (synthetic calcium sulphate tablets impregnated with antibiotics) superior in the management of diabetic foot ulcers with osteomyelitis compared to standard treatment?

M. Raglan[1], S. Dhar[2], B. Scammell[2]
[1]Nottingham University Hospital, Trauma and Orthopaedics, Nottingham, United Kingdom,
[2]Nottingham University Hospital, Nottingham, United Kingdom

Background: Diabetes is bad, common and diabetic foot ulcers (DFU) once established lead to high rates of amputation. In Nottingham our standard management for infected diabetic foot ulcers is surgical debridement, microbiological sampling, packing with gentamicin beads and targeted antibiotic therapy. Recently we have switched to packing with Stimulan, which is a purified synthetic calcium sulphate compound that can be mixed with patient appropriate antibiotics, is biodegradable and delivers better elution characteristics compared to gentamicin beads.

Aim: To assess the efficacy of Stimulan compared to Gentamicin beads in the surgical management of infected diabetic foot ulcers.

Methods: In 2012/13 the department audited its results of DFU surgical management with gentamicin beads. In 2014/5 the audit was repeated but Stimulan was used instead due to the perceived advantages Patients with infected DFU that could comply with treatment were included. Patients who had other sources of sepsis, non-compliant or moribund were excluded. Treatment pathways were identical apart for the use of Stimulan in 2014/5. The primary outcome measure was ulcer healing. The secondary outcome measure was length of stay and recurrence.

Results: Each group had 23 patients. The gentamicin group had a DFU for 12.3 months(3weeks-5 years) before presentation for surgery compared to the Stimulan group 6.1 months(2weeks-5years). Both groups had failed non-surgical management. The majority of the ulcers were located on the forefoot. In the stimulan group 70% (16/23) of ulcers had healed with an average of 4 months(2-7 months) compared to 57% (13/23) in the Gentamicin group within 6months(1-12). The length of stay was shorter in the Stimulan group 7 days (1-70) compared to 28days(1-70) in the Gentamicin group.

Conclusion: In our review Stimulan was superior to Gentamicin beads in the management of infected diabetic foot ulcers. We believe it has a role to play in limb salvage.

FP2

Minimally invasive surgical techniques for diabetic foot and ankle pathology

R. Miller[1]
[1]Hairmyres Hospital, Orthopaedics, Glasgow, United Kingdom

Introduction: Diabetes is increasing on a global scale. By 2030, 10% of the global population , ½ billon people, are predicted to have diabetes. Potentially there will be a corresponding increase in number of patients referred for surgery. Traditional surgical management of these patients is challenging.

Presented is a case series utilizing Minimally Invasive Surgical Techniques of percutaneous metatarsal neck osteotomies, metatarsal head debridement, mid-foot closing-wedge osteotomies and hind-foot arthrodesis, for the surgical management of diabetic foot pathology.

The potential socio-economic benefits analysis with regards to reduction in out-patient and theatre time, patient length of stay and time to healing are also postulated.

Methods: Minimally Invasive Surgical Techniques of metatarsal neck osteotomy, metatarsal head debridement, closing wedge osteotomy, mid-fusion and hind-foot arthrodesis nailing are described.

Procedures are preformed as day cases with fluoroscopic guidance. Low speed, high torque burrs and wedges, create the osteotomies, which can be held with percutaneous fixation.

Comparative cost analysis of conservative treatment, including clinic visits, out-patient debridement, dressings, intravenous and oral antibiotics, versus Minimally Invasive Surgical Techniques is presented.

Results: Six patients had metatarsal osteotomies for mechanical ulceration. Five reported good outcome. One patient required revision to forefoot arthroplasty due to mal-union. Five patients had debridement of metatarsal heads, which healed on average at six to eight weeks. Eight patients had mid-foot arthrodesis. Two infected cases required removal of metalwork. Three patients had hind-foot arthrodesis for arthritis following ankle fracture with degeneration and deformity.

Patients had good short and early medium term outcomes, with no reports of below-knee amputation. This technique is reproducible once the initial learning curve is mastered.

Comparative cost analysis, suggests significant financial savings by reducing inpatient admissions, clinic visits and theatre time.

Conclusion: Minimally Invasive Surgical Techniques may provide an alternative surgical management for diabetic patient with foot and ankle pathology.

FP3

The lisfranc push-up stress-test

G. Smith[1], C. Loizou[2]
[1]Norfolk and Norwich University Hospitals, Trauma and Orthopaedics, Norwich, United Kingdom,
[2]Norfolk and Norwich University Hospital, Norwich, United Kingdom

The diagnosis of Lisfranc ligament disruption is notoriously difficult. Radiographs and MRI scans are often ambiguous therefore a stress-test examination under anaesthesia is commonly required. Two midfoot stress-tests are in current practice, namely the varus first ray stress-test and the pronation abduction test. The optimal type of stress-test is not however evaluated in the literature. We hypothesised that after the loss of the main plantar stabiliser (the Lisfranc ligament) the patient would demonstrate dorsal instability, not the classic 1st/2nd metatarsal diastasis commonly described. We therefore devised a push-up test (placement of a force under the 2nd metatarsal in an attempt to elevate the base away from the middle cuneiform on the lateral radiograph). We aimed to initially test our hypothesis on a cadaveric model.

Twelve fresh frozen cadaveric specimens without previous foot injury were used. The 2nd tarsometatarsal joint was exposed and the Lisfranc ligament and dorsal capsule were incised. An image intensifier was positioned and standard anteroposterior (AP) and lateral views were obtained. Two previously reported AP stress-tests (varus first ray stress test, pronation abduction test) and the novel test under investigation ('Lisfranc Push-Up' test) were duly performed. Images were obtained once the investigator felt the appropriate views were achieved.

All twelve of the Lisfranc Push-Up tests showed dorsal subluxation of the 2nd metatarsal on the middle cuneiform of greater than 2mm on the lateral radiograph. No diastasis of the 1st/2nd metatarsals was seen in any of the specimens on the AP radiograph for either of the other two stress-tests.

The authors have described a novel way of demonstrating the dorsal instability associated with the ligamentous Lisfranc injury. Our results support the Lisfranc Push-Up test as a reproducible and sensitive method for assessing ligamentous Lisfranc injuries. In our cadaveric model the previously described stress-tests do not work.

FP4

Percutaneous versus open treatment of unstable tarsometatarsal injuries

R. Walter[1], K. Trimble[2], M. Westwood[2]
[1]North Bristol NHS Trust, Department of Trauma and Orthopaedics, Bristol, United Kingdom,
[2]Derriford Hospital, Department of Trauma and Orthopaedics, Plymouth, United Kingdom

Lisfranc fracture dislocations of the midfoot are uncommon but serious injuries, associated with posttraumatic arthrosis, progressive deformity, and persistent pain. Management of the acute injury aims to restore anatomic tarsometatarsal alignment in order to minimise these complications. Reduction and stabilisation can be performed using image-guided percutaneous reduction and screw stabilisation (aiming to minimise the risk of wound infection) or through open plating techniques (in order to visualise anatomic reduction, and to avoid chondral damage from transarticular screws). This retrospective study compares percutaneous and open treatment in terms of radiographic reduction and incidence of early complications.

Case records and postoperative radiographs of all patients undergoing reduction and stabilisation of unstable tarsometatarsal joint injuries between 2011 and 2014 in our institution were reviewed. Dorsoplantar, oblique and lateral radiographs were assessed for accuracy of reduction, with malreduction being defined as greater than 2mm tarsometatarsal malalignment in any view. The primary outcome measure was postoperative radiographic alignment. Secondary outcome measures included the incidence of infection and other intra- or early postoperative complications.

During the study period, 32 unstable midfoot injuries were treated, of which 19 underwent percutaneous reduction and screw stabilisation and 13 underwent open reduction and internal fixation. Of the percutaneous group, no wound infections were reported, and there were four (21.1%) malreduced injuries. Of the open group, two infections (15.4%) were observed, and no cases of malreduction.

In conclusion, our study shows a strong trend towards increased risk of malreduction when percutaneous techniques are used to treat midfoot injuries, and an increased risk of infection when open surgery is used. Whilst conclusions are limited by the retrospective data collection, this study demonstrates the relative risks to consider when selecting a surgical approach.

FP5

Closing the gap on Achilles tendon rupture: a cadaveric study quantifying the tendon apposition achieved with commonly used immobilisation practices

R. Collins[1], C. Loizou[1], A. Sudlow[1], G. Smith[1]
[1]Norfolk and Norwich University Hospital, Norwich, United Kingdom

Operative and non-operative treatment regimens for Achilles tendon ruptures vary greatly but commonly involve rigid casting or functional bracing. The aim of our study was to investigate the extent of tendon apposition following such treatments.

Twelve fresh-frozen, adult below knee lower-extremity cadaveric specimens with intact proximal tibiofibular joints were used. Each was prepared by excising a 10cm x 5cm skin and soft tissue window exposing the Achilles tendon. With the ankle in neutral position, the tendon was transfixed with a 2mm k-wire into the tibia, 8cm from its calcaneal insertion. A typical post-rupture gap was created by excising a 2.5cm portion of tendon between 3.5cm and 6cm from its calcaneal insertion.

The specimens were then placed into a low profile walker boot (SideKICKTM, Procare) without wedges and a window cut into the back. The distance between the proximal and distal Achilles tendon cut edges was measured and repeated with 1, 2 and 3 (10mm) wedges. Subsequently the specimens were placed into a complete below knee cast in full equinus which was also windowed.

The Achilles tendon gap (mean +/- SD) measured: 2.7cm (0.5) with no wedge, 2.3cm (0.4) with 1, 2.0cm (0.4) with 2, 1.5cm (0.4) with 3 wedges and 0.4cm (0.3) in full equinus cast.

The choice of treatment had a significant effect on tendon gap ($p < 0.0001$ - repeated measures ANOVA), and all pairwise comparisons were significantly different (Bonferroni), with all $p < 0.001$, apart from 0 wedge vs. 1 wedge ($p < 0.01$) and 1 wedge vs. 2 wedges ($p < 0.05$).

Our results showed that each wedge apposed the tendon edges by approximately 0.5cm with the equinus cast achieving the best apposition. Surgeons should consider this when planning appropriate immobilisation regimes for Achilles tendon ruptures.

FP6

Anatomy of the posterior malleolar fracture

W. Marlow[1], A. Molloy[1], L. Mason[1]
[1]University Hospital Aintree, Liverpool, United Kingdom

There is an increasing acceptance that the clinical outcomes following posterior malleolar fractures are less than satisfactory. Current ankle classification systems do not account for differences in fracture patterns or injury mechanisms, and as such, the clinical outcomes of these fractures are difficult to interpret. The aim of this study was to analyse our posterior malleolar fractures to better understand the anatomy of the fracture.

In a series of 42 consecutive posterior malleolar, who all underwent CT imaging, we have described anatomically different fracture patterns dictated by the direction of the force and dependent on talus loading. We found 3 separate categories. Type 1 - a rotational injury in an unloaded talus resulted in an extraarticular posterior avulsion of the posterior ligaments. This occurred in 10 patients and was most commonly associated with either a high fibular spiral fracture or a low fibular fracture with Wagstaffe fragment avulsion. The syndesmosis was usually disrupted in these patients. Type 2 - a rotational injury in a loaded talus resulting in a posterolateral articular fracture, of the posterior incisura. This occurred in 16 patients and was most commonly associated with a posterior syndesmosis injury, low fibular spiral fracture and an anterior collicular fracture of the medial malleolus. Type 3 - axially loaded talus in plantarflexion causing a posterior pilon. This occurred in 16 patients and was most commonly associated with a long oblique fracture of the fibular and a Y shape fracture of the medial malleolus. The syndesmosis was usually intact in these patients.

In conclusion, the anatomy of the posterior malleolar should not be underestimated and requires careful consideration during treatment and categorisation in outcome studies to prevent misinterpretation.

FP7

Rationalising the use of distal fibula locking plates in ankle fracture fixation

P. Vaughan[1], G. Salt[1], V. Thorisdottir[1], S. Deakin[1]
[1]West Suffolk Hospital, Trauma & Orthopaedics, Bury St. Edmunds, United Kingdom

Introduction: Despite costing up to 5X more than a one-third tubular plate (TTP) and no absolute indications, distal fibula locking plates (DFLP) are becoming increasingly popular in the fixation of ankle fractures, particularly in the elderly. We reviewed all our distal fibula fracture fixations, over the course of one year, in order to rationalise DFLP use.

Methods: Patient demographics, Weber classification, use of DFLP or TTP and the mode of fixation were recorded. Open fractures and tibial plafond fractures were excluded.

Results: 51/84 (61%) of patients had DFLP fixation of their distal fibula fracture, the majority (44/51) of which were for Weber B fractures. The DFLP was used in bridge mode for 12 Weber B fractures and in neutralisation mode for remaining 32.

There was a significant difference in age between the DFLP and TTP groups for all fractures ($p< 0.005$) and for Weber B fractures treated in bridge mode ($p=0.036$), but not for Weber B fractures treated with a lag screw/ neutralisation plate ($p=0.09$).

Discussion: In 32/44 of our cases, we used the DFLP to neutralise a lag screw. However DFLP are only of mechanical benefit when adequate fracture compression is not obtained either due to fracture comminution or due to osteoperotic bone, often seen in the elderly.

All 32 of these Weber B fractures were amenable to a lag screw and were not comminuted. There was also no significant age difference between this group and the group of Weber B fractures that were treated with a lag screw/ neutralisation plate. In these cases therefore, the DFLP did not offer any mechanical advantage.

Conclusion: We propose limiting the use of the DFLP to fibula fractures where intra-fragmentary compression cannot adequately be obtained, thus reducing our use by over 60% and significantly reducing our implant costs for such injuries.

FP8

Fibula rod fixation in unstable ankle fractures, experience at level one major trauma centre

N. Mushtaq[1], B. Al Obaidi[1], F. Iranpour[1,2], R. Bhattacharya[1]
[1]St Mary's Hospital - Imperial College Healthcare NHS Trust, London, United Kingdom,
[2]Imperial College London, London, United Kingdom

Introduction: Different techniques for fixation of lateral malleolus have been described. We report our results of using fibula rod for unstable ankle fractures in level one major trauma centre.

Methods: We reviewed the results of 40 ankle fractures (14 open and 26 closed) with significant soft tissue injuries and open fractures that were treated with a fibula rod between 2012 and 2015. The median age of patients was 60 (17-98 years).

Results: Satisfactory fracture reduction was achieved in all of these patients Two patients had loss of syndesmosis fixation. All fibula fractures healed but 3 medial malleolus non unions occurred which did not need further surgery. 1 patient developed post-operative deep infection and had removal of metalwork.

The median physical component Short-Form 12 (PSF12), Olerud and Molander score (OMS), and American Academy of Orthopaedic Surgeons Foot and Ankle outcome scores (AOFAS) were 40 (19 to 52), 57 (0 to 85) and 75 (20 to 95), respectively.

The median PSF12, OMS and AOFAS were 33, 35 and 47 for open fractures and 42, 60 and 78 for closed fractures respectively.

Conclusion: Using the fibula rod resulted in good radiological and satisfactory functional

outcomes with minimal complications. In spite of lower scores in the open fracture group, only one patient needed removal of metal work for deep infection. We recommend using the fibula rod in unstable ankle fracture in patients with significant soft tissue injuries and consider its use in open injuries.

FP9

Development of an intraoperative radiographic measure to assess syndesmotic reduction in ankle fractures

C.L. Loizou[1], A. Sudlow[1], R. Collins[1], D. Loveday[1], G. Smith[1]
[1]Norfolk & Norwich University Hospital, Trauma & Orthopaedics, Norwich, United Kingdom

During surgical reduction of ankle injuries with syndesmotic instability surgeons often use the anteroposterior (AP) and mortise radiographs to assess reduction. Current literature predicts 50% are malreduced mainly in the sagittal plane. Our aim was to develop a radiographic measure based on the lateral view to assess both the normal and abnormal fibula/tibia relationship after simulated syndesmotic malreduction and to evaluate the effect on commonly used AP and mortise measurements.

Nine fresh-frozen cadaveric specimens were dissected to the level of the syndesmosis. AP, mortise and talar dome lateral radiographs were obtained before and following syndesmosis division and posterior fibula displacement. On the lateral radiograph a line was drawn (Orthoview) from the anterior border of the fibula bisecting a line drawn from the anterior to posterior lips of the distal tibia. The ratio of the anterior-posterior segments was calculated. Also a line was drawn from the posterior border of the fibula and the distance was measured to the posterior lip of the tibia.

At 0, 2, 4 and 6mm of displacement the ratio measured 1.3±0.2, 1.1±0.2, 0.9±0.2 and 0.7±0.2 respectively with all pairwise comparisons being significantly different. Inter- and intra-observer variability varied from substantial to perfect. The only significant medial clear space (MCS) difference was on the mortise view between 0mm (2.0±0.3mm) and 6mm (2.4±0.4mm) displacement.

Our new measure of syndesmotic reduction is reproducible and can detect from 2mm of saggital fibular displacement. At maximum fibular displacement the increase in MCS was less than 1mm. This demonstrates standard mortise radiographs are poor at detecting syndesmotic reduction. An interesting observation was in all specimens prior to any displacement, the posterior fibular line always bisected the posterior lip of the tibia or lay just anterior to it, never posterior. This could serve as a useful adjunct for surgeons when assessing syndesmotic reduction intra-operatively.

FP10

Stable versus unstable grade II high ankle sprains - a prospective study predicting the need for surgical stabilization and time to return to sports

J. Calder[1,2], R. Bamford[3], G. McCollum[4]
[1]Fortius Clinic, London, United Kingdom,
[2]Imperial College London, London, United Kingdom,
[3]England Rugby Football Union, London, United Kingdom,
[4]UCT Private Academic Hospital, Cape Town, South Africa

This study investigated athletes presenting with grade II syndesmosis injuries and identified the clinical and radiological factors important in differentiating a stable from dynamically unstable injury and those findings associated with a longer recovery and return to sport.

Sixty-four athletes were prospectively assessed with an average follow-up of 37 months (range 24-66 months). Athletes with an isolated distal syndesmosis (+/- medial deltoid ligament) injury were included. Those athletes with a concomitant ankle fracture were excluded. Those considered stable (grade IIa) were treated conservatively with a boot and progressive rehabilitation. Those with clinical signs of instability underwent arthroscopy and if instability was confirmed (grade IIb) the syndesmosis was stabilized surgically. The clinical assessment of injury to individual ligaments of the ankle and syndesmosis were recorded along with MRI findings, complications and time to return to play.

All athletes returned to the same level of professional sport - 28 with IIa injuries returned at a mean of 45 days whereas the 36 with grade IIb injuries returned to play at a mean of 64 days ($p< 0.001$). Clinical assessment of injury to the ligaments of the syndesmosis correlated well with MRI findings. Those with a positive squeeze test were 9.5 times as likely and those with a deltoid injury 11 times more likely to have an unstable syndesmosis confirmed arthroscopically. The combination of injury to the AITFL and deltoid ligament was associated with a delay in return to sport. Concomitant injury to the ATFL indicated a different mechanism of injury with the syndesmosis less likely to be unstable and was associated with an earlier return to sport.

Clinical and MRI findings may differentiate stable from dynamically unstable grade II injuries and identify which athletes may benefit from early arthroscopic assessment and stabilization. It also suggests the timeframe for expected return to play.

FP11

Patient reported outcome measures for common foot and ankle conditions - the effect of disease and the benefit of surgery

L. Barr[1], C. Loizou[1], G. Smith[1], D. Loveday[1]
[1]Norfolk & Norwich University Hospital, Norwich, United Kingdom

Introduction: The aim of this study was to identify the effects of first MTPJ arthritis, ankle arthritis and hallux valgus on patient reported outcomes, and to assess the efficacy of surgery.

Methods: Patients who underwent first MTPJ fusion, ankle fusion or hallux valgus correction from July 2013 to October 2014 were included in the study. Exclusion criteria included revision or simultaneous bilateral surgery, inflammatory arthropathy, or arthritis of a proximal joint awaiting arthroplasty. Subjects completed the Manchester-Oxford Foot Questionnaire (MOX-FQ), EQ-5D index, and EQ-5D health scale on presentation and at least six months post-operatively. Between group statistical analysis was carried out using one-way ANOVA, pre- and post-operative scores were compared using a paired t-test.

Results: Eighty-two patients completed pre-operative questionnaires. Seventy-four (22 male, 52 female) of these (90%) completed post-operative questionnaires at a median of 10 months (range 6-17 months). The median age was 64 years (range 36-85 years). Pre-operative MOX-FQ and EQ-5D scores differed significantly between the groups (both $p < 0.001$) with ankle fusion patients reporting the worst scores and hallux valgus patients the best. Post-operative MOX-FQ and EQ-5D did not differ between groups ($p=0.52$, $p=0.06$ respectively). MOX-FQ significantly improved in all groups from pre-operatively (MTPJ $p=0.0001$; Ankle $p=0.0002$; Hallux Valgus $p < 0.0001$). EQ-5D only statistically improved following surgery for arthritic conditions (MTPJ $p < 0.001$; ankle $p < 0.001$; Hallux valgus $p=0.06$). The EQ-5D health scale did not show any differences between the groups either pre- or post-operatively, nor between pre- and post-op scores for each type of surgery.

Conclusions: MOX-FQ and EQ-5D scores differ between patients with different foot and ankle pathologies. Both scores significantly improve following surgery for arthritic conditions, but only the more specific MOX-FQ improves following hallux valgus correction. These results will be of benefit when consenting patients pre-operatively, and potentially for prioritisation of healthcare provision.

FP12

The Beagle Böhler Walker - reduction of load transmission in a below knee cast

J. Berwin[1,2], T. Burton[2], J. Taylor[2], A. McGregor[2], A. Roche[1]
[1]The Chelsea and Westminster Hospital, Trauma & Orthopaedic Surgery, London, United Kingdom,
[2]Charing Cross Hospital, Department of Musculoskeletal Biodynamics, London, United Kingdom

Background: The current 'gold standard' method for enabling weightbearing during non-invasive lower limb immobilisation is to use a Patella Tendon-Bearing (PTB) or Sarmiento cast. The Beagle Böhler Walker™ is a non-invasive frame that fits onto a standard below knee plaster cast. It is designed to achieve a reduction in force across the foot and ankle.

Our objective was to measure loading forces through the foot to examine how different types of casts affect load distribution. We aimed to determine whether the Beagle Böhler Walker™ is as effective or better, at reducing load distribution during full weightbearing.

Methods: We applied force sensors to the 1st and 5th metatarsal heads and the plantar surface of the calcaneum of 14 healthy volunteers. Force measurements were taken without a cast applied and then with a Sarmiento Cast, a below knee cast, and a below knee cast with Böhler Walker™ fitted.

Results: Compared to a standard below knee cast, the Böhler Walker™ reduced the mean peak force through the first metatarsal head by 58.9% ($p < .0001$); 73.1% through the fifth metatarsal head ($p < .0001$); and by 32.2% ($p < .0001$) through the calcaneum. The Sarmiento cast demonstrated a mean percentage reduction in peak force of 8.6% ($P = .39$) and 4.4% ($P = .87$) through the 1st and 5th metatarsal heads respectively, but increased the mean peak force by 5.9% ($P = .54$) through the calcaneum.

Conclusions: Using a Böhler Walker™ frame applied to a below knee cast significantly reduces loadbearing through the foot compared to a Sarmiento cast or a standard below knee cast.

Implications: This could mean early weightbearing is safer and better tolerated in patients with a wide variety of foot and ankle pathologies, which can in turn improve quality of life and reduce the incidence of immobility dependent morbidity.

FP13

Arthroscopic subtalar arthrodesis through the two portal sinus tarsi approach: a series of 77 cases

R. Walter[1], M. Butler[2], S. Parsons[2]
[1]North Bristol NHS Trust, Department of Trauma and Orthopaedics, Bristol, United Kingdom,
[2]Royal Cornwall Hospitals NHS Trust, Department of Trauma and Orthopaedics, Truro, United Kingdom

Traditional open approaches for subtalar arthrodesis have reported nonunion rates of 5-16% and significant incidence of infection and nerve injury. The rationale for arthroscopic arthrodesis is to limit dissection of the soft tissues in order to preserve blood supply for successful fusion, whilst minimising the risk of soft tissue complications. The aim of this study was to determine the outcomes of sinus tarsi portal subtalar arthrodesis.

Case records of all patients undergoing isolated arthroscopic subtalar arthrodesis by two senior surgeons between 2004 and 2014 were examined. All patients were followed up until successful union or revision surgery. The primary outcome measure was successful clinical and radiographic union. Secondary outcome measures included occurrence of infection and nerve injury.

Seventy-seven procedures were performed in 74 patients, with successful fusion in 75 (97.4%). One (1.3%) superficial wound infection and one (1.3%) transient sural nerve paraesthesia occurred. Fixation with a single screw provided sufficient stability for successful arthrodesis.

To our knowledge this is the largest reported series of isolated arthroscopic subtalar arthrodeses to date, and the first series reporting results of the two portal sinus tarsi approach. This approach allows access for decortication of all three articular facets, and obviates the need for a posterolateral portal, features which may explain the high union rate and low incidence of sural nerve injury in our series.

FP14

Supramalleolar osteotomy: a joint-preserving option for advanced ankle osteoarthritis

P. Karpe[1], M. Claire[1], R. Limaye[1]
[1]North Tees and Hartlepool NHS Trust, Orthopaedics, Stockton on Tees, United Kingdom

Background: Until recently, surgical treatments for advanced ankle osteoarthritis have been limited to arthrodesis or ankle replacement. Supramalleolar osteotomy provides a joint-preserving option for patients with eccentric osteoarthritis of the ankle, particularly those with varus or valgus malalignment.

Aim: To evaluate radiological and functional outcomes of patients undergoing shortening supramalleolar osteotomy for eccentric (varus or valgus) osteoarthritis of the ankle.

Method: Prospective review of patients from 2008 onwards. Osteotomy was the primary surgical procedure in all patients after failure of non-operative measures.

Pre-operative standing antero-posterior and Saltzman view radiographs were taken to evaluate degree of malalignment requiring correction. Radiological and clinical outcomes were assessed at 3, 6 and 12 months post-operatively. Radiographs were reviewed for time to union.

Patients were assessed on an outpatient basis for ankle range of motion as well as outcomes using AOFAS scores.

Results: 33 patients over a 7 year period. Mean follow-up was 25 months (range 22-30).

Mean time to radiological union was 8.6 weeks (range 8-10); there were no cases of non-union. There was a statistically significant improvement in functional scoring ($P< 0.001$); mean AOFAS score improved from 34.8 (range 15-40) pre-operatively to 79.9 (range 74-90) at 12 months post-operatively. There was no significant change in pre- and post-operative range of motion.

2 patients required revision surgery at 12 months; one to arthrodesis and one to ankle replacement.

Conclusion: Supramalleolar osteotomy is a viable joint preserving option for patients with eccentric osteoarthritis of the ankle. It preserves motion, redistributes forces away from the affected compartment and corrects malalignment, providing significant symptomatic and functional improvement.

FP15

The Zenith total ankle replacement: early to mid-term results in 155 cases

R. Walter[1], W. Harries[1], S. Hepple[1], I. Winson[1]
[1]North Bristol NHS Trust, Department of Trauma and Orthopaedics, Bristol, United Kingdom

The ZenithTM total ankle replacement (Corin, Cirencester) is a mobile-bearing implant based on the Buechal Pappas design. Key features are the simple fully-jigged instrumentation aiming to improve accuracy and reproducibility of implant positioning, cementless calcium phosphate coated surfaces for improved early osseointegration, and titanium nitride-coated bearing surfaces to resist wear. We present early to mid-term survival data for 155 total ankle replacements implanted by three surgeons in our institute.

Case records of all patients undergoing ZenithTM Total Ankle Replacement by three senior surgeons, including a member of the design team, between 2007 and 2014 were examined. Patients were examined clinically and radiographically annually after the early postoperative period. The primary outcome measure was implant survival. Secondary outcome measures included complication rates, parameters of radiographic alignment, and radiographic evidence of cysts and loosening.

One hundred and fifty-five cases were performed for a mixture of primary pathologies, predominantly primary or posttraumatic arthrosis. Mean follow-up was 50 months. Implant survival was 99.0% at 3 years (n=103), 94.0% at 5 years (n=50), and 93.8% at 7 years (n=16). One patient was revised to arthrodesis for aseptic loosening, one arthrodesis was performed for periprosthetic infection with loosening, and one below-knee amputation was performed for chronic pain. Three cases underwent further surgery to address cysts, and 7 malleolar fractures were reported. Medial gutter pain was experienced by 9% of patients.

Overall, our data show excellent early and mid-term survivorship for the ZenithTM Total Ankle Replacement. Simple fully-jigged instrumentation allows accurate and reproducible implant alignment.

FP16

Continuous popliteal sciatic nerve blockade after major ankle and hindfoot surgery using elastomeric pumps leads to shorter hospital stay and high patient satisfaction

F. SHIVJI[1], S. Weston[1], T. Addison[1], R. Erskine[1], S. Milner[1]
[1]Royal Derby Hospital, Trauma & Orthopaedics, Derby, United Kingdom

Purpose: Ankle and hindfoot surgery is associated with severe post-operative pain, leading to a reliance on opiate analgesia and its side effects, longer hospital stays, and patient dissatisfaction. Popliteal sciatic nerve blockade has the potential to resolve these issues. We present our experience with using a continuous local anaesthetic nerve block delivered by an elastomeric pump in patients undergoing major foot and ankle surgery.

Methods: All patients undergoing major ankle or hindfoot surgery during a one-year period under a single surgeon were eligible for a continuous popliteal block. An ultrasound-guided popliteal nerve catheter was inserted immediately before surgery and a bolus of bupivacaine infiltrated. Using a 250ml elastomeric pump, a continuous infusion was started immediately post operatively and terminated 48 hours later. Prospective data including post-operative analgesia, nausea and vomiting (PONV), length of stay (LOS), pain scores, and patient satisfaction were recorded daily for 48 hours post operatively.

Results: Eighty-one patients (53 male, 28 female) with a mean age 60 years (24-84 years) were included. 66 patients received spinal anaesthesia with 15 having general anaesthetics. There were no complications associated with the nerve catheters. At day 1 post op, 49 (60%) patients reported having no or mild pain. 68 (84%) patients had no PONV. 27 (33%) patients did not require any opiate analgesia during their post op period. Average LOS for all patients was 54 hours, with 41 (51%) discharged within 48 hours. 74 (91%) reported good or excellent pain management in the post operative period.

Conclusions: Continuous popliteal sciatic nerve blockade is a safe and effective method for controlling post-operative pain, reducing opiate-induced side effects, and optimising length of stay. Patient-reported outcomes support its use in major ankle and hindfoot surgery. Furthermore, reduced costs from early discharge in combination with a daycase tariff uplift can bring significant financial savings.

FP17

Surgical management of failed total ankle replacements in a tertiary referral centre

J. Humphrey[1], A. Pervez[1], R. Walker[1], A. Abbasian[1], S. Singh[1], I. Jones[1]
[1]Guy's and St Thomas' Hospital, London, United Kingdom

Background: Management of failed total ankle replacements (TAR) remains a difficult challenge. Ankle arthrodesis, revision TAR, debridement and amputation are all utilized as surgical options. The purpose of the study was to review a series of failed TAR surgically managed in our tertiary referral centre.

Methods: A retrospective review of 18 consecutive failed TARs, either within or referred to our institution, which required surgical management were reviewed. The average age was 58.2 (range 25-77) with 11 males and 6 females.

Results: The failed implants included eight Mobility TARs, five BOX TARs, four Salto Mobile TARs and one Biomet Ankle Replacement System. Reasons for failure of implant include aseptic loosening (8/18, 44%), talus collapse (3/18, 17%), poor function (3/18, 17%), heterotopic ossification (2/18, 11%), component migration (1/18, 6%) and infection (1/18, 11%). The average duration between index procedure and second procedure was 43 months (range 6-120). Five patients further required a third surgical procedure. Definitive surgical management included tibio-talar arthrodesis (7/18, 39%), revision TARs (5/18, 28%), debridement (4/18, 22%) and a below knee amputation (1/18, 6%). All the fusions subsequently went on to unite.

Conclusions: The number of TARS being performed is increasing, so there is a need to successfully manage failed implants. Surgical options depend on the reason for implant failure, patient factors and surgical expertise. Salvage ankle arthrodesis remains favorable with high fusion rates. However revision TARs are evolving into a reliable treatment option. Further studies are required to directly compare these two modes of surgical management for failed primary TARS.

FP18

Medium term follow-up of the Corin Zenith total ankle replacement in an independent non-inventor cohort

V. Sinclair[1], T. Millar[1], S. Garg[1]
[1]University Hospitals Morecambe Bay, Lancaster, United Kingdom

Background: Total ankle replacement (TAR) design has evolved greatly in recent years and offers a reasonable alternative to ankle arthrodesis in a select patient population with end-stage arthritis. Originator series' report good longevity and excellent patient reported outcomes (PROMs). We report our outcomes in an independent, non-inventor cohort.

Method: We collected prospective data on consecutive patients undergoing total ankle replacement between April 2008 and March 2012, under the care of one Consultant Orthopaedic surgeon. The primary outcome measure was time to revision. Secondary outcomes measures included American Orthopaedic Foot and Ankle Society (AOFAS) scores, Visual Analogue Score (VAS) for pain, and complications.

Results: 70 patients underwent TAR with a mean follow-up of 64 months (39-86). Three patients underwent revision of TAR to ankle arthrodesis, two for aseptic loosening and one for infection, equating to survivorship of 96%.

Three patients sustained intra-operative fractures, one of the lateral malleolus and two of the medial malleolus. The patient who sustained the lateral malleolus fracture later went on to develop aseptic loosening requiring revision. One patient developed a late stress fracture of the medial malleolus. Two patients underwent open exploration, grafting of bone cysts and fixation for ongoing pain at a mean time of 4.5 years following the primary TAR. At the most recent review all patients reported improved AOFAS scores from 39.55 (21-52) to 82.10 (57-100) and VAS from 9.11 (6-10) to 1.79 (0-6) respectively.

Conclusions: Longevity of the Zenith TAR in our non-inventor series is comparable to that of originator outcomes. Fractures are a recognized complication of TAR and when affecting the medial malleolus, do not appear to have an adverse effect on outcome. We feel that TAR offers an effective alternative solution to ankle arthrodesis with satisfactory relief of pain whilst preserving movement at the ankle joint.

FP19

Revision total ankle replacement to a hind-foot fusion with a nail; the experience from leeds

A.A. Ali[1], P. O'Connor[1], N. Harris[1]
[1]Leeds Teaching Hospitals NHS Trust, Department of Trauma & Orthopaedics, Leeds, United Kingdom

We present a series of 23 total ankle replacements revised for balloon osteolysis and aseptic loosening with a hind-foot fusion nail without the use of bone graft. This is the largest series of total ankle replacements revised to a hindfoot fusion with a nail presented in the literature.

Initial assessment involved investigations to rule out infection and a CT scan of the ankle to assess the size of cysts. Patients underwent surgery in a single stage procedure. The surgery involved excision of the fibula and preparation of the sub-talar joint through a lateral incision; removal of the implant and preparation of the talar and tibial surface with flat cuts through an anterior incision and safe excision of the medial malleolus aided by a medial incision. The prepared surfaces were then compressed and fixed using a Biomet Phoenix Nail. Patients were then followed up to assess for clinical and radiographic union.

This study involved 18 male and 4 female patients with an average age of 67. All patients had AES ankle replacements (Biomet) in-situ, undergoing revision surgery for aseptic loosening with balloon osteolysis. At a mean follow up of 13.9 months, 96% (22/23) of ankles achieved osseous union across the tibio-talar joint with 1 patient achieving a partial union. 91% (21/23) of patients achieved union across the subtalar joint with 2 patients identified as having a non-union.

1 patient with a subtalar non-union suffered a broken nail and required revision surgery. The only other identifiable complication was a single patient sustained a stress fracture at the proximal tip of the nail, which was treated conservatively.

We believe this method is a reliable and reproducible method of achieving osseous union following a failed total ankle replacement without using graft. Although patients may have a leg length discrepancy, none have requested leg lengthening.

FREE PAPERS
Friday, 13th November 2015

FP20
Platelet rich plasma versus corticosteroid injection for plantar fasciitis: a comparative study
K. Jain[1], T. Clough[1]
[1]Wrightington Hospital, Foot and Ankle, Wigan, United Kingdom

Background: We compared platelet rich plasma (PRP) injection to cortisone (40mg triamcinolone) injection in the treatment of chronic plantar fasciitis resistant to traditional nonoperative management. The aims were to compare early and long term efficacy of PRP to that of Steroid (3, 6 and 12 months after injection).

Methods: 60 heels with intractable plantar fasciitis with failed conservative treatment were randomized to either PRP or Steroid injection. All patients were assessed with Roles-Maudsley (RM) Score, Visual Analogue Score (VAS) for pain and the American Orthopaedic Foot and Ankle Society (AOFAS) score. Data was collected prospectively on the cohort, pre-treatment, at 3, 6 and 12 months post injection. The mean scores of the two groups were compared using Student t test.

Results: Pre-injection, the two groups were well matched with no statistically significant difference in the values. At 3 months, all three outcome scores in both groups had significantly improved from their pretreatment level with no significant difference between the groups (PRP: RM 3.7 to 2.0, VAS 8.3 to 3.5, AOFAS 58 to 84; Steroid: RM 3.6 to 1.9, VAS 8.3 to 2.8, AOFAS 57 to 86).

At 6 months, improvement was maintained in both groups with no significant difference between groups (PRP: RM 2.1, VAS 3.7, AOFAS 89; Steroid: RM 2.2, VAS 3.3, and AOFAS 84).

At 12 months, all outcome measures were significantly better for the PRP group as response in the steroid group had deteriorated (PRP: RM 1.9, VAS 3.3 and AOFAS 89; Steroid: RM 2.6, VAS 5.1 and AOFAS 77: p = 0.008, 0.02 and 0.002 respectively).

Conclusions: PRP is better for the treatment of chronic plantar fasciitis as compared to steroid. It shows no statistical difference in effectiveness early on, but unlike steroid, its effectiveness does not wear off with time, making it more durable.

FP21
Malignant bone tumours of the foot: a 30 year experience
A. Ramasamy[1], N. Bali[1], S. Evans[1], R. Grimer[1]
[1]Royal Orthopaedic Hospital, Birmingham, United Kingdom

Introduction: Bone tumours of the foot are rare, representing 3-6% of all bone tumours. Of these 15-25% are thought to be malignant. Obtaining clear surgical margins remains an important factor in improving outcome from tumours. However, the anatomical complexity of the foot can lead to an inadequate resection, particularly if the operating surgeon is attempting to preserve function. The aim of this paper is to identify the clinical course of patients suffering from malignant bone tumours of the foot.

Method: A prospective tumour registry over a 30 yr period was used to identify patients with a malignant bone tumour of the foot. Patient demographics along with the site of primary malignancy, region of the foot involved and clinical management were recorded.

Results: 70 patients with a malignant foot tumour were identified. 25(35%) were chondrosarcomas, 20 Ewings Sarcoma, 10 Osteosarcoma and 15 were metastatic lesions. Of those diagnosed with a primary bone tumour, 8(14.5%) were referred following a “whoops” procedure. The median length of symptoms prior to diagnosis was 52 weeks. The most common regions affected were the 1st Ray (31%) and Calcaneus (22%). The mainstay of treatment involved either Ray or Below Knee Amputation in 70% of cases. 11 patients developed either local recurrence or metastatic disease.

Conclusion: We present the largest single centre review of malignant bone tumours affecting the foot. Our series confirms that patients often have to suffer with protracted symptoms prior to the establishment of the correct diagnosis. The variety of differential diagnoses may explain the long delay in diagnosis. Worryingly, 14.5% of the primary bone malignancies in our series underwent a “whoops” procedure. This highlights further that physicians need to maintain a high index of suspicion when treating a patient with foot symptoms, even when the symptoms may be protracted.

FP22
Gastrocnemius tightness in persons with and without foot and ankle pathology
S. Chambers[1], A. Goldberg[1], N. Cullen[1], D. Singh[1]
[1]Royal National Orthopaedic Hospital, Foot and Ankle Unit, Stanmore, United Kingdom

This study used the lunge test to measure the difference between ankle dorsiflexion with the knee flexed and extended in persons with and without foot and ankle pathology. This may help us devise a weight bearing test for GT. Rationale: There is little credible research comparing GT in people with and without foot and ankle pathology. There is no normative data for ankle dorsiflexion range measured using a Lunge test and prevalence of GT in the normal population.

Methodology: 97 ankles with foot and ankle (FA) pathology and 89 ankles of healthy volunteers (HV) without FA pathology were recruited from the royal national orthopaedic hospital (RNOH). Degrees of ankle dorsiflexion range were measured using an inclinometer and a version of the lunge test with the knee flexed and extended. These findings were then compared between groups.

Results: The difference between FA vs HV for knee flexed: Ankle dorsiflexion with the knee flexed was lower in the FA group (mean=27.56 degrees, SD=8.10) than the HV group (mean=29.95 degrees, SD=6.37) however, the mean difference (2.39 degrees) between the groups was not statistically significant (p=0.30 [CI 2.40-4.54]).

The difference between FA vs HV for knee extended: Ankle dorsiflexion was lower in the FA group (mean=22.02 degrees, SD=8.27) than the HV group (mean = 26.25 degrees, SD=6.04) with the knee extended. The mean difference (4.23 degrees) between the groups was statistically significant (p=< 0.001 [CI 2.11-6.34]); Cohens d=0.58.

The difference in ankle dorsiflexion between knee positions in FA vs HV: The difference in ankle dorsiflexion between knee positions was higher in the FA group (mean=5.62 degrees, SD=4.41) than the HV group (mean=3.62 degrees, SD=3.12). The mean difference (1.996 degrees) between the groups was statistically significant (p=0.001 [CI 0.88-3.11]); Cohens d=0.52.

Conclusion: FA patients have significantly lower ranges of ankle dorsiflexion with the knee extended when compared to controls using the lunge test. The difference in ankle dorsiflexion between knee positions is significantly higher in FA patients when compared to controls; this may be attributable to GT. We aim to continue recruiting healthy controls, patients with FA pathology and patients with other musculoskeletal pathology to show the prevalence of GT in the general population. These findings could improve both conservative and surgical management of GT in associated musculoskeletal pathology.

FP23

Investigating patient reported outcomes and experience for first metatarsal scarf+/- akin osteotomy for hallux-valgus

K. Ahmad[1], A. Pillai[1], K. Somasundaram[1], A. Fox[1], N. Kurdy[1]
[1]University Hospital of South Manchester, Trauma and Orthopaedic Surgery, Manchester, United Kingdom

Background: Patient reported outcome and experience measures have been a fundamental part of the NHS. We used PROMS2.0, a semi-automated web-based system, which allows collection and analysis of outcome data, to assess the patient reported outcome/experience measures for scarf+/- akin osteotomy for hallux valgus.

Methods: Prospective PROMs/PREMs data was collected. Scores used to asses outcomes included EQ-5D VAS, EQ-5D Health Index, and MOxFQ, collected pre-operatively and post-operatively (Post-op follow-up 6-12months) Patient Personal Experience (PPE-15) was collected postoperatively.

Results: 40 patients (35 Female / 5 Male) (19 Left + 21 Right). Average age - 60.7 years (Range 29-88). No bilateral procedures.

Pre-op average MOXFQ scores for pain, walking and social interaction: 51.6 (range 5-100), 51.4 (range 0-96) and 48.8 (range 0-100) respectively. Post-operatively improved to 24.4 (range 0-100), 22.9 (range 0-86) and 23.1 (range 0-88). Corresponding P values for all < 0.00001 and statistically significant.

32/40 (80%) patients showed improvement in all three domains. Of 8 who worsened- 6 worse with pain, 4 with walking and 5 with social-interaction.

EQ5D improved; pre-op index average- 0.70 and pre-op VAS score average- 79.3. Post-op index average- 0.80. VAS score average- 82.9. Index improvements were significant, P-value < 0.0023 (significant). EQ5D improvements in line with those found in hip/knee replacements. No differences between 6/12m follow-up.

Patients stratified according to age-groups for analysis, 11 patients under 54 years old, 15 between 55-64, and 14 over 65. Greatest improvement in over 65s for MOxFQ and under 55s for EQ5D. 27/35 women improved in all MOxFQ domains, whilst 5/5 men did. P-value for age and sex both < 0.05 therefore significant. Age/sex EQ5D showed results of no statistical significance. 65 patients filled post-op PPE questionnaire. Average overall satisfaction of 72.9%.

Conclusion: The procedure is very effective with high PROMs/PREMs. Older sub-group have best outcomes and highest satisfaction.

Level of evidence: Prospective case series- Level 3

FP24

Mid-term results of a first generation metatarsophalangeal hemiarthroplasty system for the treatment of hallux rigidus

L. McEntee[1], M.-C. Killen[1], P. Karpe[1], R. Limaye[1]
[1]University Hospital North Tees, Orthopaedic Department, Stockton on Tees, United Kingdom

Background: Hallux rigidus is a degenerative condition of the first metatarsophalangeal joint (MTPJ) of the great toe, which can result in significant pain and stiffness. Treatment using joint replacement, either by means of hemiarthroplasty or total arthroplasty of the metatarsophalangeal joint is becoming an increasingly popular option for patients with severe disease.

Aim: To evaluate mid-term functional and radiological outcomes of a widely used first generation resurfacing arthroplasty system in the treatment of hallux rigidus.

Method: Prospective review of patients from 2009 onwards. All patients were operated on by the senior author using the same first generation hemiarthroplasty prosthesis (HemiCAP®, Arthrosurface, USA) and surgical technique.

Radiological and clinical outcomes were assessed at 3, 6, 12 and 24 months post-operatively. Patients were assessed pre- and post-operatively on an outpatient basis for MTPJ range of motion as well as outcomes using AOFAS and visual analogue scale scores.

Results: 20 prostheses in 19 patients over a two year period. Mean follow-up was 18 months (range 12-24).

Mean AOFAS score improved from 38.66 pre-operatively to 74.93 at 12 months post-operatively. Mean VAS score improved from 9.95 pre-operatively to 4.05 post-operatively.

There was radiological subsidence in one patient. 5 patients (26%) required revision to arthrodesis due to ongoing pain and stiffness.

Conclusion: Despite significant improvements in functional scores and positive radiological outcomes in most patients, we have seen high revision rates with this first generation prosthesis due to ongoing pain and stiffness. Since this study, there has been a redesign of this implant with the addition of a dorsal flange, but the first generation prosthesis still remains in use. Following our results, we have discontinued our use of this product in favour of either the newer generation hemiarthroplasty or total arthroplasty system for patients with severe hallux rigidus.

FP25

Metallic hemiarthroplasty for the treatment of end stage hallux rigidus: mid-term implant survival, functional outcome and cost analysis

G. Dall[1], N. Clement[1], D. McDonald[1], I. Ahmed[1], A. Duckworth[1], H. Shalaby[1], J. McKinley[1]
[1]NHS Lothian, Orthopaedics, Edinburgh, United Kingdom

We present a review of 97 consecutive BioPro® metallic hemiarthroplasties performed in 80 patients for end-stage hallux rigidus, with a minimum of five years follow-up.

The mean age of the cohort was 55 (22 to 74) years. No patient was lost to follow-up. There were 15 revisions performed, one for infection, two for osteolysis, and 12 for pain. The all cause survival rate at five years was 85.6% (95% confidence interval (CI) 83.5 to 87.9). Younger age was a significant predictor of revision (odds ratio 1.09, 95% CI 1.02 to 1.17, p=0.014) on excluding infection and adjusting for confounding variables (Cox regression). Significant improvements were demonstrated at 5 years in the Manchester Oxford foot questionnaire (13.9, 95% CI 10.5 to 17.2) and in the physical component of the short form 12 score (6.5, 95% CI 4.1 to 8.9). The overall satisfaction rate was 72%. The cost per quality-adjusted-life-year at 5 years, accounting for a 3% per year revision rate, was £3,714.

The BioPro offers good short to mid-term functional outcome and is a cost effective intervention. The relative high revision rate is associated with younger age and the use of this implant may be limited to older patients.

Keywords: BioPro, metallic, hemiarthroplasty, survival, outcome, failure

FP26

Prospective, randomized, multi-centered clinical trial assessing safety and efficacy of a synthetic cartilage implant versus first metatarsophalangeal arthrodesis in advanced hallux rigidus

J. Baumhauer[1], D. Singh[2], M. Glazebrook[3], C. Blundell[4], G. Wansbrough[5], G. de Vries[6], I. Le[7], D. Nielson[8], E. Petersen[9], A. Sakellariou[10], M. Solan[11], A. Younger[12], T. Daniels[13], M.O.T.I.O.N. Research Team
[1]URMC Rochester, Rochester, United States,
[2]Royal National Orthopaedic Hospital, Foot and Ankle Unit, Stanmore, United Kingdom,
[3]QE II Health Sciences Centre, Halifax, Canada,
[4]Northern General Hospital, Sheffield, United Kingdom,
[5]Torbay Hospital, Torbay, United Kingdom,
[6]Everett Chalmers Hospital, Fredericton, Canada,
[7]Calgary General Hospital, Calgary, Canada,
[8]St Geoge's Hospital, London, United Kingdom,
[9]University of WarwickAlberta, Edmonton, Canada,
[10]Frimley Park Hospital, Frimley, United Kingdom,
[11]Royal National Orthopaedic HospitalSurrey County Hospital, Guildford, United Kingdom,
[12]St Geoge's HospitalPaul's Hospital, Vancouver, Canada,
[13]St Geoge's HospitalMichael's Hospital, Toronto, Canada

Patients with advanced stage hallux rigidus from 12 centers in Canada and the UK were randomized (2:1) to treatment with a small (8/10 mm) hydrogel implant (Cartiva) or 1st MTP arthrodesis. VAS pain scale, validated outcome measures (FAAM sport scale), great toe active dorsiflexion motion, secondary procedures, radiographic assessment and safety parameters were evaluated.

236 patients were initially enrolled, 17 patients withdrew prior to randomization, 17 patients withdrew after randomization and 22 were non-randomized training patients, leaving 152 implant and 50 arthrodesis patients. Standard demographics and baseline outcomes were similar for both groups.

Mean VAS pain scores decreased from 6.8 and 6.9 respectively for the implant and arthrodesis groups from baseline to 1.4 and 0.7 at 24 months. Similarly, the FAAM sports score improved significantly from baseline levels of 37 and 36 to 24 months level of 77 and 82 respectively for the implant and arthrodesis groups. First MTP active dorsiflexion motion improved an average of 4° at 3 months after implant placement and was maintained at 24 months.

Secondary surgeries occurred in 17 (11.2%) implant patients and 6 (12.0%) arthrodesis patients. Fourteen (9.2%) implants were removed and converted to arthrodesis and 6 (12.0%) arthrodesis patients had painful hardware requiring removal. There was no case of implant fragmentation, wear, or bone loss. Analysis of a single composite endpoint utilizing the three primary study outcomes (pain, function, and safety) showed statistical equivalence between the2groups.

Conclusion: In patients requiring surgery for advanced stage hallux rigidus, treatment with a small synthetic cartilage implant resulted in comparable clinically important pain relief and functional outcomes compared to 1st MTP arthrodesis while preserving and often improving great toe motion. Secondary surgical intervention was similar in the implant and arthrodesis groups. Revision from a small implant plug to arthrodesis can be performed if needed.

FP27

Outcomes following surgical excision of interdigital Morton's neuroma: a prospective study

V. Bucknall[1], D. Rutherford[2], D. Macdonald[2], H. Shalaby[1], J. McKinley[1], S. Breusch[1]
[1]Royal Infirmary of Edinburgh, Department of Trauma and Orthopaedic Surgery, Edinburgh, United Kingdom,
[2]University of Edinburgh, Edinburgh, United Kingdom

Current knowledge regarding outcomes following surgical treatment of Morton's neuroma remains incomplete. This is the first prospective study to report the pre- and post-operative patient reported outcomes and satisfaction scores following excision of interdigital Morton's neuroma.

Over a seven year period, 99 consecutive patients (112 feet) undergoing surgical excision of Morton's neuroma were prospectively studied. 78 patients were female with a mean age at operation of 56 years. Patient recorded outcomes and satisfaction were measured using the Manchester-Oxford Foot Questionnaire (MOXFQ), Short Form-12 (SF12) and a supplementary patient satisfaction survey three months pre and six months post-operatively.

Statistically significant differences were found between the mean pre- and post-operative MOXFQ and physical component of the SF-12 ($p < 0.05$). No difference in outcome was identified in patients in whom multiple neuromas were operated compared to single site surgery. However, revision surgery proved to statistically worsen MOXFQ outcomes post-operatively $p < 0.004$. Overall satisfaction was reported as excellent (49%) or good (29%) by the majority of patients but 10% were dissatisfied with poor (8%) or very poor (2%) results expressed. Only 64% were pain free at the time of follow-up and 8% of patients MOXFQ scores worsened.

These findings illustrate that overall, patient reported outcomes following resection of symptomatic Morton's neuroma are acceptable but may not be as favourable as earlier studies suggest. Caution should be taken when considering revision surgery which has shown to be a poor prognostic indicator. Contrary to current knowledge, multiple site surgery can be safely undertaken.

FP28

Plantar plate reconstruction of the metatarsophalangeal joint using the EDL tendon

E. Ballas[1], J. Jalali[1], P. Briggs[1]
[1]Freeman Hospital, Orthopaedics, Newcastle upon Tyne, United Kingdom

Introduction: The attachment of the plantar aponeurosis to the proximal phalanx of the toe, through the plantar plate (PP), forms the main flexor of the toe during gait by the reversed windlass mechanism. Disruption of the plantar plate is a common cause of pain, instability and toe deformity. Surgical techniques have recently been described to repair tears but long term results are awaited. This study aims to review the results of a technique designed to reconstruct and reinforce the failed plantar plate and restore the reversed windlass.

Methods: Through a dorsal extra-articular approach the EDL tendon of the affected toe is used to restore the mechanical link between the proximal phalanx and the plantar aponeurosis on the plantar aspect of the joint. 42 PP reconstructions in 39 patients (36 female) aged 44-72 were undertaken, most frequently on the 2nd toe. 25 required correction of hallux valgus and four had undergone this previously. Follow up was 2-81 months.

Results: Normal alignment and joint stability was obtained in 33 toes (81%). These patients reported no pain and were completely satisfied with the final result.

Recurrence of the deformity with an unstable joint occurred in 8 toes, requiring revision surgery. Failure was more likely with pre-operative dislocation, lateral subluxation, or multiple toe involvement. Minor complications occurred in 5 patients.

Conclusions: Repair or reconstruction of the plantar plate for lesser claw toe deformity is a logical option for correcting the deformity, and restoring toe function and the reversed windlass mechanism. The extra-articular approach may reduce the risk of joint stiffness, avoid scarring of the plantar tissues, and avoid toe elevation associated with metatarsal shortening. This approach is designed to reinforce the weakened plantar plate and may be a satisfactory alternative and more durable technique than direct plantar plate repair.

FP29

The use of the Smart Toe implant for proximal interphalangeal arthrodesis in the lesser toe: a case series

D. Trigkilidas[1], R. Drabu[1], A. Keightley[1], P. Halliwell[1]
[1]Royal Surrey County Hospital, Guildford, United Kingdom

Introduction: Lesser toe proximal interphalangeal joint arthrodesis is a common forefoot procedure for correction of claw toe deformities. The most common method of fixation is with k-wires. Although this is a very cost-effective method of fixation, well-known disadvantages include pin site infection, non union, wire migration and the inconvenience to the patients of percutaneous wires for up to six weeks. For these reasons, intramedullary devices for joint fixation without crossing the distal IP joint have been developed. Many different designs are currently available. The Smart Toe prosthesis which has appeared as a type I and II, is one such implant. In two recent studies using type I, the use of this implant is advocated. We wish to present our experience with the use of the Smart Toe II.

Methods: In this retrospective study we present a radiological review of 46 consecutive cases in 25 patients who underwent lesser toe interphalangeal arthrodeses using the Smart Toe II implant between July 2010 and November 2014 by the senior author. There were 7 (28%) male and 18 (72%) female patients. Post operative radiographs, taken at a mean follow up of 6 months, were reviewed for non-union, migration and implant failure.

Results: There were 9 (20%) implant fractures, 10 (22%) radiological non- unions and 5 (11%) implant migrations. 4 toes (9%) were sufficiently symptomatic to require revision.

Conclusion: In contrast to two previous studies, our series showed a high rate of implant fracture and non-union, sometimes leading to the need for revision surgery. We recommend caution in use of the Smart Toe II and welcome further reports of results. If our experience is replicated, we suggest the device's use is withheld pending appropriate studies to identify and address the reasons for implant failure, especially if more of the radiological failures come to require revision.

British Orthopaedic Foot & Ankle Society

Annual Scientific Meeting 2015

POSTERS SUMMARY

P1
Can Enhanced Recovery reduce length of stay after ankle replacement surgery?
K. Jain[1], T. Karim[1], J. Davenport[1], M. Karski[1], R. Smith[1], T. Clough[1]
[1]Wrightington Hospital, Foot and Ankle, Wigan, United Kingdom

P2
Post-traumatic osteoarthritis patients can expect good 5 year outcomes following mobile-bearing total ankle replacement
S. Johnson-Lynn[1], J. Ramaskandhan[1], M. Siddique[1]
[1]Freeman Hospital, Newcastle upon Tyne, United Kingdom

P3
Cement Arthroplasty as a salvage for failed infected ankle replacement or ankle fusion. Is it a get out of jail card?
M. Raglan[1], J. Chell[1], S. Dhar[2]
[1]Nottingham university Hospital, Nottingham, United Kingdom,
[2]Nottingham university Hospital, Nottingham, United Kingdom

P4
Radiographic severity of arthritis predicts outcome following total ankle replacement
S. Chambers[1], J. Ramaskhandan[1], M. Siddique[1]
[1]Freeman Hospital, Newcastle, United Kingdom

P5
Arthroscopic stabilisation of the ATFL ligament of the lateral ligament complex of the ankle using Arthrex Internal Brace. Introduction
R. Miller[1]
[1]Hairmyres Hospital, East Kilbride, United Kingdom

P6
Randomised controlled trial comparing corticosteroid injection for Morton's neuroma with or without ultrasound guidance - results at 12 months post-intervention
D. Mahadevan[1], R. Bhatt[1], M. Attwal[1], M. Bhatia[1]
[1]University Hospitals of Leicester NHS Trust, Leicester, United Kingdom

P7
First MTPJ arthrodesis is it fused and how do we know?
A. Isaacson[1], A. Cattell[1], A. Bing[1]
[1]The Robert Jones and Agnes Hunt Orthopaedic Hospital NHS Foundation Trust, Oswestry, United Kingdom

P8
Metatarsal length in metatarsalgia: does size matter?
J. Carter[1], J. Alsousou[1], M. Almutani[2], S. Sirikonda[1]
[1]Royal Liverpool and Broadgreen University Hospitals Trust, Trauma and Orthopaedics, Liverpool, United Kingdom,
[2]Royal Liverpool and Broadgreen University Hospitals Trust, Trauma & Orthopaedics, Liverpool, United Kingdom

P9
A comparison of postoperative footwear following forefoot surgery. A Randomised Control Trial
K. Robinson[1], F. Harrold[2], A. Fox[3], C. Chadwick[1], C. Blundell[1], M. Davies[1]
[1]Sheffield Teaching Hospitals NHS Foundation Trust, Trauma and Orthopaedics, Sheffield, United Kingdom,
[2]Ninewells Hospital, Trauma and Orthopaedics, Dundee, United Kingdom,
[3]University Hospital of South Manchester, Trauma and Orthopaedics, Manchester, United Kingdom

P10
Multi centre service evaluation of the Roto-glide 1st MTP joint replacement
P. Laing[1], R. Limaye[2], C. Walker[3], S. Kendall[4], P. Mackennie[5], A. Adedapo[5], D. Lavalette[6], M. Al-maiyah[5]
[1]Robert Jones & Agnes Hunt Orthopaedic Hospital NHS FT, Oswestry, United Kingdom,
[2]University Hospital of North Tees, Stockton on Tees, United Kingdom,
[3]Royal Liverpool and Broadgreen University Hospitals Trust, Liverpool, United Kingdom,
[4]Parkside hospital, London, United Kingdom,
[5]South Tees Hospitals NHS Trust, Middlesborough, United Kingdom,
[6]Harrogate hospital, Harrogate, United Kingdom

P11
Silastic Metatarsophalangeal Joint Replacement in the Lesser Toes; A Successful Salvage Procedure
V. Sinclair[1], S. Garg[1]
[1]University Hospitals Morecambe Bay, Lancaster, United Kingdom

P12
2-3 year outcomes of the Primus silastic joint replacement for degenerative disease of the 1st metatarsal phalangeal joint
S. Borland[1], G. deKiewiet[1], P. Bansal[1]
[1]Sunderland Royal Hospital, Trauma and Orthopaedics, Sunderland, United Kingdom

P13
A Prospective, Randomised Controlled Trial to Determine the Efficacy of Night Splints versus the Strassburg SockTM in the Relief of Heel Pain in Plantar Fasciitis
A.W. Gardner[1], E. Tay[1], C.J. Pearce[1]
[1]Jurong Health, Singapore, Singapore

P14
The effect of active toe movement (AToM) on asymptomatic deep vein thrombosis in patients with acute foot and ankle injury treated with cast – A Prospective Randomised Controlled Trial
B. Hickey[1], R. Alikhan[1], A. Cleves[1], N. Pugh[1], L. Nokes[2], A. Perera[1]
[1]University Hospital of Wales, Cardiff, United Kingdom,
[2]Cardiff University, Cardiff, United Kingdom

P15
Stability of Lisfranc Injury Fixation in Theil Cadavers: Is fixation of the third ray necessary?
G. Chami[1], S. Dalgliesh[1], F. Harrold[1]
[1]Ninewells Hospital, Dundee, United Kingdom

P16
The effect of pre-operative tibio-talar alignment on patient reported outcomes in the mid-term following total ankle joint replacement for osteoarthritis
T. Karim[1], R. Jugdey[1], C. Purcell[2], S. Buttress[2], J. Barrie[2]
[1]Wrightington Hospital, Wigan, United Kingdom,
[2]University of Salford, Manchester, United Kingdom

P17
The Locked Intramedullary Fibula Nail: A Biomechanical Cadaveric Evaluation
G. Smith[1], R. Wallace[2], G. Findlater[2], T. White[3]
[1]Norfolk and Norwich University Hospitals, Trauma and Orthopaedics, Norwich, United Kingdom,
[2]Edinburgh University, Edinburgh, United Kingdom,
[3]Royal Infirmary of Edinburgh, Edinburgh, United Kingdom

P18
Timely recognition and reduction of ankle fracture-dislocation may have an impact on mid-term patient reported outcomes
L. Wicks[1], D. Richler-Potts[2], A. Bowden[2], D. Clarke[1], J. Mangwani[1]
[1]University Hospitals of Leicester, Orthopaedics, Leicester, United Kingdom,
[2]Leicester University, Medical School, Leicester, United Kingdom

P19
Weight-Bearing CT Delineates the Anatomy of the Syndesmosis
B. Rose[1], M. Welck[1], L. Milnes[1], D. Singh[1], N. Cullen[1], A. Goldberg[1]
[1]Royal National Orthopaedic Hospital, Stanmore, United Kingdom

P20
Outcome of Operatively treated Os Calcis Fractures – The Southampton Experience
N. Vasukutty[1], V. Kumar[2], M. Diab[3], W. Moussa[2]
[1]University Hospitals Southampton, Orthopaedics, Southampton, United Kingdom,
[2]University Hospitals Southampton, Southampton, United Kingdom,
[3]Dorset County Hospital, Dorchester, United Kingdom

British Orthopaedic Foot & Ankle Society

Annual Scientific Meeting 2015

POSTERS
ABSTRACTS

P1

Can enhanced recovery reduce length of stay after ankle replacement surgery?

K. Jain[1], T. Karim[1], J. Davenport[1], M. Karski[1], R. Smith[1], T. Clough[1]
[1]Wrightington Hospital, Foot and Ankle, Wigan, United Kingdom

Background: Enhanced recovery is well established in knee replacements. No study has investigated the results of enhanced recovery (ER) after ankle replacements. The aim of this study was to compare the length of stay, postoperative pain, nausea and sedation, complications and readmission rates in patients undergoing ankle replacements with and without enhanced recovery.

Methods: Enhanced recovery (pre-op education, health optimisation, discharge planning, intra-op local infiltration analgesia, postop early mobilisation, nonopioid analgesia and discharge when safe) was followed for all primary total ankle replacements from 01 December 2014 onwards. 30 patients in the enhanced recovery cohort were compared with a previous consecutive 30 patients (Jan - Nov 2014). Pain, nausea and sedation were scored from 0 to 3 in all patients prospectively with 0 being none, 1 being mild, 2 being moderate and 3 being severe. The mean scores were compared using Student T test.

Results: The mean ages in the ER and control groups were 64 and 65 years respectively. There was no difference in pre-operative diagnoses between the 2 groups. There was a significant difference in the mean Day0 and Day1 pain scores for the two groups (Day0: ER:Control 0 v 0.6; p=0.003) and (Day1: ER:Control 0 v 0.7; p=0.005). There was no statistically significant difference in the nausea and sedation scores. There was significant reduction in the mean length of stay from 4.1 days in the control group to 1.7 days in the ER group (p = 0.02). There was no difference in the readmission and complication rates.

Conclusions: Postoperative length of stay and pain scores are significantly improved in the ER cohort compared to the non ER cohort.

P2

Post-traumatic osteoarthritis patients can expect good 5 year outcomes following mobile-bearing total ankle replacement

S. Johnson-Lynn[1], J. Ramaskandhan[1], M. Siddique[1]
[1]Freeman Hospital, Newcastle upon Tyne, United Kingdom

Background: Little long term data is available on patient-reported outcome measures (PROMs) following total ankle replacement in patients with posttraumatic osteoarthritis (PTOA), osteoarthritis (OA) and rheumatoid arthritis (RA). Patients with post-traumatic osteoarthritis have previously been felt to have poorer short and long term results following total ankle replacement, due to younger age, higher activity levels and greater patient expectations. We report the 3 and 5 year outcomes for patients who underwent total ankle replacement with a mobile bearing prosthesis, comparing prospectively collected PROMs data for PTOA patients with those with OA and RA.

Methods: We analysed patient demographic data, American Orthopaedic Foot & Ankle Society (AOFAS) scores, Foot and Ankle Outcome Scores (FAOS), the SF-36 Health Survey, and patient satisfaction scores, collected preoperatively and up to five years postoperatively.

Results: The study included 109 consecutive patients who underwent total ankle replacement between March 2006 and December 2009 (58 OA, 21 RA, 30 PTOA). At one and two years postoperatively, the PTOA group reported significantly better scores on the general health domain of the SF-36. At three and five years postoperatively, there was a trend for better scores in the PTOA group for all domains of the SF36, however none of these reached significance (P>0.05). At one year postoperatively, the PTOA group and the RA group had better FAOS results for pain than the OA group. There were no significant differences in FAOS scores between groups at three or five years. There were no significant differences in AOFAS scores or in patient reported satisfaction at any measured time point.

Conclusions: Our findings suggest that patients with posttraumatic osteoarthritis of the ankle can expect comparable five year outcomes after total ankle replacement with a mobile bearing prosthesis as patients with osteoarthritis and rheumatoid arthritis.

P3

Cement Arthroplasty as a salvage for failed infected ankle replacement or ankle fusion. Is it a get out of jail card?

M. Raglan[1], J. Chell[1], S. Dhar[1]
[1]Nottingham University Hospital, Nottingham, United Kingdom

Aim: To assess the outcome of antibiotic impregnated cement arthropalsty for failed infected total ankle replacement or fusion.

Methods: From Jan 2012 till January 2015 there were seven patients who underwent cement arthroplasty due to intractable infection following failed ankle replacement or fusion. Of the seven patients; six patients had an infected total ankle replacement and one patient an infected failed ankle fusion. The mean age was 71 years (55-84years) with an average follow up period of 9 months (6-22 months). The primary outcome measure was duration of the cement arthroplasty. The secondary outcome measures were American Orthopaedic Foot and Ankle Scores (AOFAS), Visual analogue Score (VAS). Patients subjective assessment of the overall improvement compared to pre cement arthroplasty were recorded as well as walking aid use and pain killers consumed.

Results: The cement spacer was retained without breakage for a mean of nine months (5-22months). The mean AOFAS score improved from twenty (11-55) preoperatively to fifty-seven (50-75) postoperatively and VAS pain score from eight (5-9) to three-point-nine (1-4.5). At the latest follow-up five patients were satisfied, using small amounts of pain killers, functioning within their limits and had improved compared to preoperatively. Indeed two had resumed normal activities. One patient had died due to complications from surgery. One patient was dissatisfied and undergone a conversion to a TTC nail.

Conclusions: Primary cement arthroplasty may be an effective salvage procedure for failed infected ankle replacement or fusion. For intractable infection where patients are possibly facing a below knee amputation cement arthroplasty is an alternative procedure worth considering.

P4

Radiographic severity of arthritis predicts outcome following total ankle replacement

S. Chambers[1], J. Ramaskhandan[1], M. Siddique[1]
[1]Freeman Hospital, Newcastle, United Kingdom

It has been previously demonstrated that radiographic severity of osteoarthritis (OA) predicts outcome following knee and hip replacement. In certain circumstances patients may undergo arthroplasty without severe radiographic disease. An example may be the patient with significant chondral damage unsuccessfully treated with arthroscopy. This patient may proceed to joint replacement when their radiographs would not normally merit such intervention. We investigated whether these findings were also applicable to total ankle replacements (TAR).

We retrospectively reviewed a single-surgeon, single-implant series of 124 TAR with minimum 2 year follow up. Pre-op X-rays were graded using the Kellgren-Lawrence classification. Outcome was measured using the FAOS, SF-36 Score and validated Patient Satisfaction Score. 96 patients with Grade 4 OA had the biggest improvement in FAOS (p< 0.047). Only half of 28 patients with Grade 3 or less were satisfied at 2 yrs, compared to 91.1% of Grade 4 patients (p< 0.001). 93.9% of patients with Grade 4 disease felt that their quality of life was improved by surgery, versus 47% of patients with grade 3 or less (p< 0.001). 77.3% of Grade 4 patients said they would have the operation again, versus just 52.2% of patients with grade 3 or less (p=0.014). Satisfied patients had an average grade of 3.9, while dissatisfied patients had an average grade of 2.9 (p< 0.05).

While this study does not explain all of the dissatisfaction in TAR, radiological severity is an important factor that the surgeon must consider when planning how best to treat their patients. This study does not allow us to answer the question of how to manage with patients who have significant chondral lesions and MRI findings of subchondral bone oedema, but it does highlight the fact that caution must be used when considering patients for arthroplasty who have low radiographic severity of OA.

P5

Arthroscopic stabilisation of the ATFL ligament of the lateral ligament complex of the ankle using Arthrex Internal Brace.

R. Miller[1]
[1]Hairmyres Hospital, East Kilbride, United Kingdom

Introduction: Lateral ligament complex injuries to the ankle are common. Patients with chronic injuries present with lateral ankle pain +/- instability. Radiographs frequently show no bony injury. There is often a delay for patients to be referred to the Orthopaedic Foot and Ankle Surgeon. Multiple surgical techniques for repair or reconstruction of the anterior talo-fibular ligament (ATFL) have been described, with varying post-operative rehabilitation regimens.

Aim: To assess the short term outcome of arthroscopic anterior talo-fibular ligament (ATFL) repair using the Arthrex InternalBraceTM system.

Method: All patients had exhausted conservative treatment. Pre-operatively patients were assessed clinically and radiologically (x-ray and MRI scan). MRI confirmed torn/stretched/abnormal ATFL or if negative, very high clinical suspicion. Patients were then consented for arthroscopy + ATFL repair. Pre-operative questionnaire (approved by Scottish Foot and Ankle Surgeons)

AOFAS, MOXFQ, EDQ-5, Visual Analogue Score

- Day case: General anaesthetic with popliteal block
- Antibiotics at induction
- Anterior ankle arthroscopy performed through 2 standard anterior portals
- Arthrex InternalBraceTM System:
    - 3.5mm BioComposite SwiveLock with FiberTape placed into fibula
    - Distal end of FiberTape passed through 4.75mm BioComposite
    - Ankle plantarflexed to gain appropriate tension on the InternalBraceTM
    - SwiveLock / FibreTape placed into the talar neck drill hole
- Post-op mobilisation in a moonboot for 7-10 days
- Commence physiotherapy at 10 days
- Biomechanical podiatric assessment at 6 weeks
- Telephone follow-up at 6 months PROMS

Results: 14 patients reported pre-op instability with 16 patients stating moderate/severe pain on daily activity.. Post-operatively 13 patients were satisfied or very satisfied with surgery. 10 reporting good/very good/excellent improvement in their pain scores. 12 patients stated that they would definitely have the surgery again. At six months, there were no post-operative infections or implant failures.

Conclusion: Arthroscopic ATFL repair with InteralBraceTM allows early post-operative rehabilitation fully weight bearing with high patient satisfaction.

P6

Randomised controlled trial comparing corticosteroid injection for Morton's neuroma with or without ultrasound guidance - results at 12 months post-intervention

D. Mahadevan[1], R. Bhatt[1], M. Attwal[1], M. Bhatia[1]
[1]University Hospitals of Leicester NHS Trust, Leicester, United Kingdom

The objective of this double-blind RCT was to assess whether ultrasound guidance improved the efficacy of corticosteroid injections for Morton's neuroma.

50 feet (40 patients) were recruited for this study. 5 cases declined further participation and were excluded. The mean age was 57.8 years with a female preponderance (33F:12M) and patients were followed-up for 12 months. Cases were randomised to receive an ultrasound guided (Group A) or non-ultrasound guided (Group B) injection of 40mg triamcinolone acetonide and 2ml 1% lignocaine.

The mean VAS pain score improved significantly in both groups (Group A - from 64 to 29mm; Group B - from 69 to 37mm) with no statistical difference between them at all time-points. The failure rate within 12 months of treatment was 48% and 55% in Groups A and B respectively (p=0.458). The improvement in MOxFQ-Index and patient satisfaction favoured Group A in the short-term (3 months) that almost reached statistical significance (p=0.059 and 0.066 respectively). However, this difference was not observed beyond 3 months.

In conclusion, this study had shown that US guidance did not demonstrably improve the efficacy of corticosteroid injections in patients with MN.

P7

First MTPJ arthrodesis is it fused and how do we know?

A. Isaacson[1], A. Cattell[1], A. Bing[1]
[1]The Robert Jones and Agnes Hunt Orthopaedic Hospital NHS Foundation Trust, Oswestry, United Kingdom

Introduction: First MTPJ arthrodesis is a treatment of arthritis, hallux valgus and hallux rigidus. However, non-union is a common complication (3.2-12%). Post-operative management of patients requires assessment of healing to guide post-operative rehabilitation and recovery. This demands radiographical assessment of union be both reliable and reproducible.

Aim: To determine the complication and non-union rate in patients undergoing first MTPJ arthrodesis at the Robert Jones and Agnes Hunt Hospital and to determine most reliable method of assessing union on plain radiographs.

Method: 124 patients undergoing isolated primary first MTPJ arthrodesis between 2008 and 2013 were identified. Clinical data of all follow up and outcomes were collected until the patient was discharged. The union rate was compare to the standard reported in the literature (3.2-12%). Post operative radiographs were reviewed independently by two orthopaedic registrars and scored according to the criteria proposed by Hammer et al (1984). An unweighted Cohens Kappa for 2 raters was used to assess interobserver reliability.

Results: 80% of patients achieved MTPJ arthrodesis with no significant complications and the average patient is discharge at 5 months. The non-union rate was 9.7 % (7% required revision surgery) and a further 8.9% required further surgery to remove metalwork. Radiographic assessment of union at 6 weeks shows only moderate inter-observer agreement. At 12 weeks the clinician's general impression or the number of cortices with a fracture line evident show substantial inter- observer agreement.

Conclusion: First MTPJ arthrodesis is a reliable treatment option however, it is important to counsel patients about the possible complications and the recovery period (approx. 5 months).

Clinicians should use the 6 weeks radiographical assessment alone to determine ongoing rehabilitation. 12 weeks radiographical assessment provide a more reliable assessment of union. This study would, therefore, strongly support all patients receiving a 12 week radiographical assessment prior to discharge.

P8

Metatarsal length in metatarsalgia: does size matter?

J. Carter[1], J. Alsousou[1], M. Almutani[1], S. Sirikonda[1]
[1]Royal Liverpool and Broadgreen University Hospitals Trust, Trauma and Orthopaedics, Liverpool, United Kingdom

Introduction: Maestro's arc has proven an invaluable tool when planning surgical correction of metatarsal (MT) length in the treatment of metatarsalgia (MTA). But 20% of patients remain symptomatic are we being presumptuous in thinking that the MT arcade is universal?

We propose a study to answer the following questions. Is the Maestro arc applicable to our population? Is there a significant difference in MT lengths when comparing those with and without metatarsalgia? Are there other significant factors responsible?

Materials and methods: Data collection was retrospective, plain radiographs and clinical notes were reviewed for elective foot and ankle clinic attendences between 2012 and 2014. Exclusion criteria were hallux valgus angle over 150, previous surgery and gross deformity. Data analysis: parametric tests showed non-parametric data. Means were compared using Mann Whitney test for bivariable and Kurskal-Wallis tests for multivariants groups. Graphpad Prisme 5.0 software was used and 5% p value was considered significant.

Results: 173 patients were analysed (140 without MTA & 33 with MTA). Overall relative MT lengths were different between the two groups ($p < 0.01$). Dunn's post-test to compare the metatarsal length-difference between the same metatarsals in the two groups showed significant difference between 1-2 MT, 3-4MT and 4-5 MT (P was 0.025, 0.024 and 0.01 respectively). There was no difference in the 2-3 MT length (p 0.241). There was no difference between the two groups in HVA ($p=0.66$). Females had significantly higher risk of MTA when compared with males ($p=0.015$)

Discussion: Respective metatarsal length is significant in metatarsalgia - size does matter. Female gender was also found to be associated. Our cross section of 'normal' feet without metatarsalgia yielded an arc of metatarsal lengths significantly different to maestro's arc. This may suggest we need to rethink our pre-operative planning.

P9

A comparison of postoperative footwear following forefoot surgery. A randomised control trial

K. Robinson[1], F. Harrold[2], A. Fox[3], C. Chadwick[1], C. Blundell[1], M. Davies[1]
[1]Sheffield Teaching Hospitals NHS Foundation Trust, Trauma and Orthopaedics, Sheffield, United Kingdom,
[2]Ninewells Hospital, Trauma and Orthopaedics, Dundee, United Kingdom,
[3]University Hospital of South Manchester, Trauma and Orthopaedics, Manchester, United Kingdom

Introduction: Following forefoot surgery patients are put into an accommodative shoe for 6 weeks. Although there are various postoperative shoes available, no studies have compared these shoe for patient satisfaction, effectiveness of pain relief or relative cost. This study looks at three types of footwear, testing the null hypothesis that there is no difference in patient satisfaction or performance between post-operative shoes.

Method: NREC permission was granted for this Prospective Randomised Control Trial (12/yh/0110). Eligible patients (aged over 18, undergoing straightforward 1st ray surgery and independently mobile) were recruited from clinic by senior authors. Thirty of each footwear type (Procare Med/Surg Shoe, Darco shoe, Podalux shoe) were randomly allocated to 90 envelopes. Patients completed a pre-operative MOXFQ and were allocated a study number. Post surgery, each patient was randomly allocated one of the envelopes and fitted with the respective shoe prior to discharge. Patients were seen 6 weeks post-operatively and completed a post-operative MOXFQ and Surgical Shoe Questionnaire. Statistical analysis was carried out with a significance level set at $p < 0.05$.

Results: There was no significant difference between postoperative means, for the MOXFQ walking/standing domain ($p = 0.6789$), pain ($p = 0.5204$) or social interaction ($p = 0.6740$). There was no significant difference between the mean values for each shoe for the Surgical Shoe Questionnaire ($p = 0.2980$), nor in willingness of patients to wear the shoe again ($p = 0.3681$).

Conclusion: We accept our null hypothesis that there is no difference in patient satisfaction or performance between post-operative shoes. Patients were found to be equally satisfied with wearing any of the post-operative shoes. Provided that clinical outcome is not affected by wearing any particular shoe, the clinician is free to choose the most cost effective option or the shoe they feel is best suited to their patient.

P10

Multi centre service evaluation of the Roto-glide 1st MTP joint replacement

P. Laing[1], R. Limaye[2], C. Walker[3], S. Kendall[4], P. Mackennie[5], A. Adedapo[5], D. Lavalette[6], M. Al-Maiyah[5]
[1]Robert Jones & Agnes Hunt Orthopaedic Hospital NHS FT, Oswestry, United Kingdom,
[2]University Hospital of North Tees, Stockton on Tees, United Kingdom,
[3]Royal Liverpool and Broadgreen University Hospitals Trust, Liverpool, United Kingdom,
[4]Parkside Hospital, London, United Kingdom,
[5]South Tees Hospitals NHS Trust, Middlesborough, United Kingdom,
[6]Harrogate Hospital, Harrogate, United Kingdom

Joint replacement in the 1st mtp joint remains controversial as 1st mtpj fusion yields good results but at the expense of a stiff joint. 1st mtpj replacement continues to be developed and has a place for patients who wish to retain movement and for the difficult problem of dual arthritis of the ipj and mtpj. The Roto-glide is a cementless 3 component titanium HA coated device which was developed in Denmark and has been in use there for over 14 years with reported good results. New devices should be evaluated in controlled trials so, prior to introduction into the UK, a prospective multi centre service evaluation audit was set up with a defined protocol, registered in Oswestry and conducted in 6 centres around the UK. The results of 43 Roto-glides in 43 patients, with a minimum follow up of one year, are presented. There were 14 male and 29 female patients. The minimum age was 45 and maximum 80 years with an average of 59.6 years. Follow up was from 12-29 months with an average of 16.9 months. The pre-operative AOFAS scores ranged from 17 to 67 with an average of 39.5. The post operative AOFAS scores ranged from 29 to 100 with an average of 77. Post operatively one patient developed a superficial wound infection, one developed medial sesamoiditis and one developed a 1st metatarsal stress fracture at 18 months which healed with non operative treatment. No loosenings have been seen and no revisions performed. A satisfactory post operative range of movement was obtained by ensuring the components were not put in tight and mobilising the joint early and regularly. The early results encourage the longer term evaluation of the prosthesis.

P11

Silastic metatarsophalangeal joint replacement in the lesser toes: a successful salvage procedure

V. Sinclair[1], S. Garg[1]
[1]University Hospitals Morecambe Bay, Lancaster, United Kingdom

Introduction: The surgical options for the degenerative lesser metatarsophalangeal joint (MTPJ) or chronically dislocated MTPJs are limited and have traditionally included metatarsal shortening procedures where minimal degenerative change is present, or excision arthroplasty with more advanced changes. Although these procedures are successful in relieving pain, they may leave the patient with a short and/or floppy toe and transfer metatarsalgia. In our institution, we offer the patient a silastic MTPJ replacement. We present our case series.

Method: We retrospectively analysed data on consecutive patients undergoing lesser MTPJ silastic replacement using the Tornier Futura TM implant under the care of one Consultant Foot and Ankle surgeon over a five year period from May 2009 to June 2014. Demographic data, complications and patient satisfaction were recorded. Patient follow-up was performed at a single point in time by telephone and patients were asked if they were overall, satisfied with the procedure and secondly if they were experiencing any pain from the replaced joint.

Results: Data was collected on 25 toes of 23 feet in 20 patients. There were 3 males and 17 females. Median age was 59 (31-85). Diagnoses included 16 chronic MTPJ dislocations, 4 congruent arthritic MTPJs, 4 joints with avascular necrosis and secondary degenerative change and 1 dropped toe from a previous attempt at excision arthroplasty. 7 patients had undergone previous forefoot surgery. No patient experienced complications.

15 patients (75%) were available for follow-up. 14 (93%) patients were satisfied with the procedure. 10(67%) patients were completely pain free, 3 patients (20%) reported occasional pain and 2 (13%) reported problems with ongoing pain.

Conclusion: Treatment of the chronically dislocated lesser toe and advanced congruent degeneration at the MTPJ can be difficult to treat especially in an isolated digit. We believe that silastic replacements offer high patient satisfaction and satisfactory pain relief.

P12

2-3 year outcomes of the Primus silastic joint replacement for degenerative disease of the 1st metatarsal phalangeal joint

S. Borland[1], G. deKiewiet[1], P. Bansal[1]
[1]Sunderland Royal Hospital, Trauma and Orthopaedics, Sunderland, United Kingdom

Background: Arthritis of the 1st MTPJ is common. It may occur in isolation or associated with deformity such as hallux valgus. Silastic implants have been used with good patient satisfaction but reported complications include synovitis, lymphadenopathy and implant fracture. The Primus implant (Tournier) is composed of silicone elastomer and is designed specifically for the geometry of the first MTPJ. We report the 2-3 year outcomes of 27 cases performed in our unit.

Methods: We examined 27 arthroplasties of the 1st MTPJ using the Primus implant, performed between January 2012 and March 2013. 18 were performed for isolated hallux rigidus. 5 had associated hallux valgus. 4 had associated lesser toe deformities which were also corrected. All patients had degenerative change of the joint consistent with at least grade 3.

The Manchester-Oxford foot and ankle questionnaire (MOXFQ) was obtained reflecting the preoperative period and at a minimum of 2 years post operatively.

Results: The mean pain score was 60.3 pre-operatively (range 10-80). Post operatively the mean pain score was 16.1 (Range 0- 60). The main walking /standing score preoperatively was 54.8 (range 0-84.3). Post operatively the mean score was 14.8 (range 0-50.1). The mean social score preoperatively was 40.9 (range 0-68.8). Postoperatively this fell to a score of 25.1 (range 0-62.5).

There were 2 superficial infections treated with antibiotics and dressings. There were no deep infections. There were no failures due to synovitis or cases of lymphadenopathy. One case failed due to recurrence of valgus deformity and implant failure.

Conclusion: Use of the Primus implant for arthroplasty of the 1st MTPJ can produce excellent results. Many patients reported complete resolution of symptoms. Some patients still had some pain and difficulty walking. This case series should be the basis for randomised controlled trials comparing this to other treatments.

P13

A prospective, randomised controlled trial to determine the efficacy of night splints versus the Strassburg Sock™ in the relief of heel pain in plantar fasciitis

A.W. Gardner[1], E. Tay[1], C.J. Pearce[1]
[1]Jurong Health, Singapore, Singapore

After a pilot study and power analysis to calculate the sample size required, a prospective, randomized controlled study of 32 patients with plantar fasciitis was performed to determine the efficacy of a dorsiflexion night splint compared with the Strassburg Sock™ in relieving heel pain. All patients were referred to physiotherapy for an eccentric stretching regime and were randomized to receive either the dorsiflexion night splint or Strassburg Sock™.

The primary outcome measure was the visual analogue score for pain (VAS) on first standing in the morning. Secondary outcomes were VAS scores for the worst pain the patient had experienced that week, Manchester/ Oxford Foot Questionnaire (MOXFQ) and a patient satisfaction score. Data were recorded at 0, 6, 12 and 24 weeks.

Two patients dropped out of the study.The VAS and MOXFQ scores showed that all patients were significantly better by the end of the study. Patient satisfaction was high in both groups. There was no significant difference in any of the scores at any time point between the splint or the Strassburg Sock™ group. Either the Strassburg Sock™ or the splint can be considered as a secondary treatment in addition to eccentric stretches for initial treatment of plantar fasciitis.

P14

The effect of active toe movement (AToM) on asymptomatic deep vein thrombosis in patients with acute foot and ankle injury treated with cast - a prospective randomised controlled trial

B. Hickey[1], R. Alikhan[1], A. Cleves[1], N. Pugh[1], L. Nokes[2], A. Perera[1]
[1]University Hospital of Wales, Cardiff, United Kingdom,
[2]Cardiff University, Cardiff, United Kingdom

Patients with lower limb trauma and cast treatment are at risk of venous thromboembolism (VTE). Active toe movement reduces venous stasis with a below knee cast in situ, which may influence rates of deep vein thrombosis (DVT). Our aim was to determine the effect of an active toe movement protocol (AToM) on asymptomatic DVT rates in patients with acute foot and ankle trauma treated with below knee cast.

In this prospective randomized controlled study, 100 adult patients with acute foot or ankle trauma treated with below knee cast were recruited at the University Hospital of Wales. In accordance with NICE guidance, all patients were assessed for risk of VTE. If patients had permanent risk factors for VTE they were ineligible for the study and provided with low molecular weigh heparin thromboprophylaxis. After enrolment, patients who were randomized to AToM were advised to perform regular daily toe movement exercises according to a defined protocol. On discharge from fracture clinic all patients underwent bilateral lower limb venous ultrasound to identify DVT.

78 patients of mean age 36 years (range 16-60) completed the study. 65% (n=51) were male. 59% (n=46) of patients were treated with cast for ankle fractures. 21 (27%) patients were found to have deep vein thrombosis on ultrasound examination. All of these occurred in the lower limb that had been injured and treated in cast. The DVT rate was 13/39 (33.3%) in intervention group and 8/39 (20.5%) in control group. These differences were not statistically significant (p=0.202).

Although venous stasis may be reduced by performing regular active toe movements with a below knee cast in situ, this does not appear to influence rates of DVT. Local endothelial dysfunction due to trauma may influence the pathogenesis of DVT to a greater extent than venous stasis.

P15

Stability of lisfranc injury fixation in theil cadavers: is fixation of the third ray necessary?

G. Chami[1] , S. Dalgliesh[1], F. Harrold[1]
[1]Ninewells Hospital, Dundee, United Kingdom

There is debate whether a home run screw (medial cuneiform to 2nd metatarsal base) combined with k-wire fixation of 4th & 5th rays is sufficient to stabilise Lisfranc injuries or if fixation of the 3rd ray is also required to fully stabilise the medial column. Unlike the 4th and 5th TMTJs, stabilisation of the 3rd ray requires either intra-articular screw fixation or bridge plating, which both risk causing chondrolysis and/or OA.

In eight Theil embalmed specimens, measurements of 1st - 2nd metatarsal gaping and TMTJ dorsal displacement were made at each ray (1st to 5th) during simulated weight bearing with sequential ligamentous injury and stabilisation to determine the contribution of anatomical structures and fixation to stability.

At baseline, the mean dorsal TMTJ displacement of the intact specimens during simulated weight bearing (mm) was: 1st: 0.14, 2nd: 0.1, 3rd:0, 4th: 0, 5th: 0.14. The 1st-2nd IM Gap was 0mm. After transection of the Lisfranc ligament only, there was 1st-2nd intermetatarsal gaping (mean 4.5mm), but no increased dorsal displacement. After additional transection of all the TMTJ ligaments dorsal displacement increased at all joints (1st: 4.5, 2nd: 5.1, 3rd: 3.6, 4th: 2, 5th: 1.3). Stabilisation with the home run screw and 4th and 5th ray k-wires virtually eliminated all displacement. Further transection of the 3rd/4th inter-metatarsal ligaments increased mean dorsal displacement of the 3rd ray to 2.5mm. K-wire fixation of the 3rd ray completely eliminated dorsal displacement.

The results suggest that stabilising the medial cuneiform to 2nd metatarsal base and 4/5th TMTJs with K wires will stabilise the 3rd TMTJ if the inter-metatarsal ligaments are intact. Thus 3rd TMTJ stability should be checked after stabilisation with a home run screw and k wires to the 4/5th rays. Provided the 3rd-4th intermetatarsal ligaments are intact the 3rd ray does not need to be stabilised.

P16

The effect of pre-operative tibio-talar alignment on patient reported outcomes in the mid-term following total ankle joint replacement for osteoarthritis

T. Karim[1], R. Jugdey[1], C. Purcell[2], S. Buttress[2], J. Barrie[2]
[1]Wrightington Hospital, Wigan, United Kingdom,
[2]University of Salford, Manchester, United Kingdom

Background: There is debate whether pre-operative tibio-talar (TT) mal-alignment in the coronal plane should be a contra-indication to total ankle joint replacement (TAR). This study aims to determine if, in the mid-term, there is a statistically significant difference between perceived levels of pain and function following TAR for osteoarthritis (OA) dependant on pre-operative TT alignment.

Methods: This retrospective cohort study identified 65 eligible individuals who underwent primary TAR for OA, without adjunct realignment procedure, in 2008 and 2009 at a specialist orthopaedic centre. Ethical procedures were followed, informed consent gained and participants grouped according to pre-operative alignment using a novel approach to measuring the radio-graphic TT angle (neutral group = < 5°, valgus group= >5° & varus group >5°). The EQ 5D-5L, Manchester-Oxford Foot Questionnaire (MOXFQ) and a visual analogue scale (VAS) of pain were used as patient reported outcome measures (PROMs) collected via postal questionnaire.

Results: Response rate was 67%. Mean TT angles within the groups were 2° neutral, 9° valgus and 9° varus. Median scores for the neutral, varus and valgus groups were as follows: EQ5D-5L index score = 0.71, 0.74 and 0.86, EQ5D-5L health score = 80, 75 and 70, MOXFQ = 16, 8 and 6.5 with VAS = 2.6, 1.2 and 1.3 respectively. PROM data was analysed using a non-parametric Kruskal-Wallis one-way analysis of variance test with a p value of < 0.08, in which the EQ5D-5L index score = 0.301, EQ5D-5L NRS = 0.874, MOXFQ = 0.294 and VAS = 0.452. No statistically significant difference was observed between the 3 groups. Inter-rater reliability of measuring TT angle was excellent with a correlation coefficient of 97%.

Conclusion: Moderate coronal plane pre-operative TT mal-alignment does not have a significant impact on patient reported outcomes in the mid-term following TAR should not be considered a contra-indication to surgery.

P17

The locked intramedullary fibula nail: a biomechanical cadaveric evaluation

G. Smith[1], R. Wallace[2], G. Findlater[2], T. White[3]
[1]Norfolk and Norwich University Hospitals, Trauma and Orthopaedics, Norwich, United Kingdom,
[2]Edinburgh University, Edinburgh, United Kingdom,
[3]Royal Infirmary of Edinburgh, Edinburgh, United Kingdom

Introduction: Locked intramedullary nail fixation of fibula fractures has many attractive qualities. Not only is it a minimally invasive procedure but, as a consequence of its location, there is little prominent metalwork.

Hypothesis: To date there are no biomechanical studies assessing the strength of fixation in a rotational torque where previous generations of smooth, unlocked intramedullary devices have failed. Prior to recommending this treatment modality we aimed to assess whether there is a biomechanical advantage to fixing the most common unstable ankle fracture - the OTA 44-B2 - with an intramedullary device in a cadaveric model.

Methods: Twenty cadaveric lower limbs (ten cadavers) had an OTA 44-B2 type injury created surgically with a fibula osteotomy and appropriate soft tissue release. The deep deltoid was preserved to represent fixation of the medial side. One leg was randomly allocated to fixation with a locked intramedullary fibula nail and the other a lag screw (3.5mm) and neutralisation plate (one-third tubular). A tensile tester subjected all samples to an axially loaded (800Nm) supination external rotation force (30degs/s) to failure (point of sudden downturn in torque).

Results: Superior ultimate tensile strength and energy absorption were seen in the nail group (Students't-test, p=0.03 and 0.07 respectively). This equated to a mean improvement in biomechanical properties of approximately 20%.

Conclusion: Enhanced biomechanical attributes are of particular advantage when managing osteoporotic ankle fractures. The results of this study complement the growing body of research recommending the fibula nail.

P18

Timely recognition and reduction of ankle fracture-dislocation may have an impact on mid-term patient reported outcomes

L. Wicks[1], D. Richler-Potts[2], A. Bowden[2], D. Clarke[1], J. Mangwani[1]
[1]University Hospitals of Leicester, Orthopaedics, Leicester, United Kingdom,
[2]Leicester University, Medical School, Leicester, United Kingdom

Introduction: Significantly displaced ankle fractures frequently suffer a delay to manipulation whilst waiting for x-rays, with the potential for worsening soft tissue trauma.

The purpose of this study was to establish how often ankle fracture-dislocations presenting to the emergency department (ED) are identified and reduced on clinical assessment alone; and does performing an x-ray before reduction lead to a less favourable patient reported outcome.

Method: Radiographs were assessed for all patients who had an ankle fracture fixation at the Leicester Royal Infirmary between March 2012 and February 2013. Ankle fractures with significant displacement or those already in a cast (after manipulation) on the initial radiographs were selected for further analysis. In addition the patient reported outcomes measured were Lower Extremity Functional Scale (LEFS) and Olerud-Molander Ankle Scores (OMAS).

Results: One hundred and nineteen patients were identified for analysis. 62 patients had significantly displaced ankle fractures not in a cast on initial radiographs, whilst 57 were. There was no difference in the likelihood of the initial fracture manipulation being successful between these two groups. (P=0.8507). On average, from the time of arrival to hospital, it took over an hour longer for a patient, who was initially sent to x-ray, to have a radiograph confirming an adequately reduced ankle mortice post manipulation (p=0.0024). 67 of 119 patients responded to the postal questionnaires. LEFS and OMAS scores at 2 years were better in patients who underwent early reduction that was successful on the first attempt, without pre-manipulation radiographs.

Conclusion: Pre-manipulation x-rays did not improve the chance of a successful initial attempt at fracture reduction. However, the time to achieve a reduced ankle mortice was significantly longer when x-rays were first performed. The delay appears to have an impact on mid-term patient reported outcomes.

P19

Weight-bearing CT delineates the anatomy of the syndesmosis

B. Rose[1], M. Welck[1], L. Milnes[1], D. Singh[1], N. Cullen[1], A. Goldberg[1]
[1]Royal National Orthopaedic Hospital, Stanmore, United Kingdom

The syndesmosis is critical to ankle stability. Syndesmotic injuries are common and frequently undetected. Historically, radiographic measurements have been undertaken to assess the integrity of the syndesmosis, but have been shown to be unreliable. The advent of cross-sectional imaging has enabled better visualisation of the syndesmosis. Several previous studies have described the normal syndesmotic anatomy on CT. These, however, all describe non-weight-bearing information, and may not simulate the true functional anatomical pattern of the syndesmosis.

The pedCAT standing CT scanner (Curvebeam, USA) is a novel technology that allows 3D CT imaging in the axial, sagittal and coronal planes with full weight-bearing. This study aims to assess and describe the normal anatomy of the syndesmosis during weight-bearing on standing CT scan. This has not been done before. It also reports the inter-and intra-observer reliability of the measurements taken.

Weight-Bearing CT scans were assessed in 25 randomly selected subjects (50 feet), with an equal gender split. The scans were taken for forefoot pathology unrelated to the ankle, hindfoot or syndesmosis. Measurements were taken according to the validated method described by Nault (2013). These were performed 9.45mm proximal to the tibial plafond. Six measurements and two angles were identified to assess the antero-posterior and medial-lateral translations of the fibula relative to the incisura, and the fibula rotation. Images were independently reviewed by two observers. Measurements were taken twice by each investigator at six weekly intervals. Inter- and intra-observer reliability were high, thus validating the methodology used.

This is the first study to assess the ankle syndesmosis on weight-bearing CT, and provides a comparison with existing non-weight bearing studies. Weight-Bearing CT may enable subtle changes at the injured syndesmosis to be identified, by comparing affected and unaffected ankles, or as a post-operative tool to assess accurate reduction of the injured syndesmosis.

P20

Outcome of operatively treated os calcis fractures - the Southampton experience

N. Vasukutty[1], V. Kumar[2], M. Diab[3], W. Moussa[2]
[1]University Hospitals Southampton, Orthopaedics, Southampton, United Kingdom,
[2]University Hospitals Southampton, Southampton, United Kingdom,
[3]Dorset County Hospital, Dorchester, United Kingdom

This is a retrospective review of 80 intra articular calcaneal fractures treated by open reduction and internal fixation by a single surgeon in a tertiary centre between 2005 and 2014. The fractures were evaluated with plain radiographs and CT scan and graded using Eastwood Atkins classification. A lateral approach was used and all fractures were fixed with calcaneal plates.

All cases had clinical and radiological follow up. Clinical assessment included Foot and Ankle Disability Index and SF 36 scores.

The mean follow up was 63 months (3-121). Average age of patients was 49 (17 - 73) There were 3 open fractures and 8 patients had other injuries. The mean Bohler's angle improved from 6 degrees preoperatively to 26 degrees post operatively. Mean Foot and Ankle Disability index scores were 78.62 and SF 36 scores were 45.5 (physical component) and 52.6 (mental component).

Early complications included 1 case of screw in subtalar joint, 1 Sural Nerve injury and 1 wound breakdown, which healed with non operative measures. 12 patients had symptomatic subtalar joint osteoarthritis out of which 4 had subtalar fusion. These results compare favourably with peer-reviewed literature. We recommend prompt osteosynthesis in intra articular calcaneal fractures to restore hind foot shape and Bohler's angle.

BOFAS
British Orthopaedic Foot & Ankle Society

Annual Scientific Meeting 2015

Sponsor Profiles

Arthrex has developed more than 8,000 innovative products and surgical procedures to advance minimally invasive orthopaedics worldwide. Medical Education is at the core of Arthrex's foundations and our philosophy of "Helping surgeons treat their patients better" has not only shaped our principles and history but is guiding us into the future. Visit Arthrex at stand 12 for innovation, education and so much more.

Athrodax Healthcare is a name synonymous with orthopaedic treatment systems, focusing on extremity surgery. Recently launched In2Bones single use and re-useable instrument sets and implants are taking an important foothold in NHS hospitals and private sector. Athrodax present, for the first time in the UK, the unique Magnezix bio-absorbable metallic implant! See us on stand 14.

Bauerfeind's 80 years of expertise offers the medical professional a wide range of quality products within the following fields: Orthopaedics, Phlebology & Foot Orthopaedics together with Image technology.

At Biocomposites, we are distinct in that our team of specialists is singularly focused on the development of innovative calcium compounds for surgical use. With over 25 years' experience and an unrivalled dedication to quality, the products we research, engineer and manufacture are at the forefront of calcium technology. Our innovative products range from bone grafts to matrices that elute supra-MIC levels of antibiotics at the site of infection.

Biovation UK Ltd, a Sheffield based medical device company presents a unique cartilage replacement technology revolutionizing the treatment of the 1st MTP joint providing a clinically proven alternative to arthrodesis. Made from PVA, an inert, viscoelastic, lubricious organic polymer-based biomaterial, the Cartiva® SCI procedure offers pain relief, maintains motion in the joint, reduces rehabilitation time enabling patients to return to normal activity sooner than with fusion. Results of the Cartiva MOTION Study are now available. www.bio-vation.co.uk

Bioventus is the recognized leader in bone stimulation devices, and among the leading distributors of osteoarthritis injection treatments. Our active healing therapies work together with the body's natural healing process, thereby shortening recovery time and potentially minimizing the overall cost of care. Our clinically proven solutions have helped many who suffer from fractures or osteoarthritic joint pain.

BONESUPPORT AB is a Scandinavian medical technology company that produces the ceramic bone substitute CERAMENTTM. CERAMENT™|G with gentamicin and CERAMENTTM|V with vancomycin are the first and only CE-marked injectable antibiotic eluting bone substitutes on the market, engineered to provide high local antibiotic delivery whilst remodeling into bone.

The pedCAT provides bilateral, weight bearing, 3-dimensional CT scans of the foot and ankle. The open gantry allows for ease of entry and positioning. A cushioned seat accommodates non-weight bearing positioning as well. Scan time is less than one minute.

DePuy Synthes Companies of Johnson & Johnson is the largest, most innovative and comprehensive orthopaedic and neurological business in the world, built upon the strong legacies of two great companies. We are a total solutions company. DePuy Synthes Companies offer an unparalleled breadth and depth of technology, devices, services and programs in the areas of joint reconstruction, trauma, spine, sports medicine, neurological, cranio-maxillofacial, power tools and biomaterials. Our broad array of inspired, innovative and high quality offerings help advance the health and wellbeing of people around the world.

The unmet needs in orthopaedic and neurological care are significant. With insights from patients, physicians, providers, payors and policymakers to guide us, DePuy Synthes Companies are uniquely positioned to meet these needs and deliver life-changing medical innovation. At DePuy Synthes Companies, we aspire to be your partner of choice, delivering high standards of quality in everything we do.

DJO Global is a leading medical device company providing solutions for musculoskeletal health, vascular health and pain management. The Company's products help patients prevent injuries or rehabilitate after surgery, injury or from degenerative disease, enabling them to regain or maintain their natural motion. DJO Global's brands include Aircast®, Chattanooga™, DonJoy®, Empi® and ProCare®. Visit www.DJOglobal.co.uk

EMS continues this tradition in a spirit of relentless innovation nurtured by an impeccable track record of success. As a market leader of Extracorporeal Shockwave Therapy, EMS sets industrial standards by developing micromechanical devices of unequalled quality and crafted with Swiss precision.

Firstkind Ltd manufactures medical devices utilising proprietary OnPulse(tm) neuromuscular electro-stimulation technology embedded in the small, portable, one-size-fits-all geko(tm) device. Electrical impulses gently stimulate the common peroneal nerve activating the calf and foot muscle pumps increasing venous, arterial and microcirculatory blood flow, up to 60% to that achieved of walking. Nice Guidance (MTG19) supports use of the geko(tm) device for VTE prevention.

Since 2008, Hospital Innovations has been supplying a growing range of specialist products for use in orthopaedic and corrective surgery. We are extremely pleased to be exhibiting at BOFAS to present our range of products for foot and ankle. Our products range from single step treatments for cartilage defects, allograft bone blocks, wound care treatments and extracellular matrix scaffolds for rotator cuff tendon repair.

Implants International Limited was launched in 1994 and has evolved into a modern, pro-active and multi-disciplined bio-engineering company based in the UK and dedicated to excellence in the Arthroplasty, Trauma and Spinal implant sectors. Since 2000, we have launched a wide range of novel Foot and Ankle systems.

Int2Med, provide innovative products and great customer service in the Sports Medicine (Chondrotissue for Proven cartilage repair, Sports Allograft and Meniscus) , Deformity Correction (Smart Correction – the easiest to use hexapod frame and software full stop) and Small Bone Surgery (Step screws and staples, Bioretec ActivaNails – 4th generation resorbable PLGA copolymer pins and screws).

Integra LifeSciences, a world leader in medical technology, is dedicated to limiting uncertainty for surgeons, so they can concentrate on providing the best patient care. Integra offers innovative solutions in orthopaedic extremity surgery, neurosurgery, spine surgery, and reconstructive and general surgery.

Lavender Medical specialise in supplying innovative osteosynthesis products to the orthopaedic community with a particular emphasis on the extremities market. The company represents a number of leading research-focused manufacturers to bring the latest technology available to the UK. We are dedicated to give the highest level of service to the hospitals we work with.

Lockdown Medical Limited is a British privately owned company, with a rich history of product development and innovation. Specialising in developing innovative soft tissue reconstruction devices Lockdown Medical Ltd are pleased to be able to offer a range of Lockdown devices for shoulder, knee, foot & ankle.

MatOrtho® is a UK manufacturer of internationally-recognised orthopaedic implant devices which includes the BOX® Total Ankle Replacement.

MatOrtho® is a global trendsetter in the field of orthopaedic implant devices, totally focused on improving the quality of life of all patients who receive one of its devices. The passion, knowledge and innovation which drives MatOrtho® is delivered and applied in a dynamic and ethical way.

We look forward to welcoming you to Stand 5 to demonstrate the BOX® and share its excellent survivorship and functional data results.

medartis®

Medartis is one of the leading manufacturers of medical devices for orthopaedic extremity trauma and cranio-maxillofacial surgery. Medartis is committed to providing surgeons and operating theatre personnel with innovative titanium implants, instruments and a comprehensive service provision that represent advances in bone fixation and osteosynthesis and thus, patient's quality of life.

However, ambitious objectives can ultimately only be realized through the personal commitment and outstanding dedication of a highly qualified and motivated team.

For more information, please contact Mai Widdowson in Medartis Customer Services on
mai.widdowson@medartis.com or 01924 476699

OPED

OPED UK was registered in 2011 bringing the Oped philosophy to the UK, products are used in many clinical areas - Orthopaedics, Trauma, Diabetes and Vascular. We also sell a range of products to help the patient during the treatment and recovery phases.

Oped keeps you going.

OrthoSolutions
Specialist Extremities

Established in 2001 OrthoSolutions has evolved into a leading UK Foot and Ankle company. We believe that specialist customers deserve a specialist service and all at OrthoSolutions are driven by a desire to develop quality products that meet the specific needs of the Foot and Ankle customers, whom we serve.

smith&nephew

Smith & Nephew is a global medical technology business dedicated to helping improve people's lives. We have leadership positions in Orthopaedic Reconstruction, Advanced Wound Management, Sports Medicine and Trauma

- Orthopaedics Reconstruction - joint replacement systems for knees, hips and shoulders
- Advanced Wound Management - wound care treatment and prevention products used to treat hard-to-heal wounds
- Sports Medicine - minimally invasive surgery of the joint
- Trauma - products that help repair broken bones

Sovereign Medical Ltd

Sovereign Medical Ltd is one of the specialist suppliers of the most innovative and contemporary orthopaedic products across the UK. Over the past fifteen years, we have been recognised as one of the leading suppliers of hand, foot and shoulder products. Working closely and keeping up to date with the world's top manufacturers of orthopaedic products enables us to provide the best possible options for Surgeons.

stryker®

Stryker is one of the world's leading medical technology companies with the most broadly based range of products in orthopaedics and a significant presence in other medical specialties. Stryker works with medical professionals to help people lead more active and more satisfying lives.

The Company's products include implants used in upper and lower limb surgery, extremities, trauma, craniomaxillofacial and spinal surgeries; biologics, surgical, neurologic, ENT, and interventional pain equipment; endoscopy and surgical navigation.

Stryker offers a unique range of solutions and continues to improve this offering via meaningful innovation.

Vertec

Established in the UK for over thirty years, Vertec Scientific is a leading distributor of world class imaging and radiotherapy systems and consumables. Our portfolio includes Hologic DXA and the Fluoroscan range of intraoperative x-ray mini c-arms, including the all digital Insight, now the best seller of its type in Britain.

WRIGHT
FOCUSED EXCELLENCE

Wright Medical is a specialty orthopaedic company that provides extremity and biologic solutions which alleviate pain and restores lifestyles. We are a recognised leader of surgical solutions for foot and ankle procedures in one of the fastest growing segments in medical technology. Wright products are available in over 60 countries.

ZIMMER BIOMET

Zimmer Biomet is a worldwide leader in orthopaedics. We remain true to our purpose of restoring mobility, alleviating pain, and helping millions around the world find renewed vitality.

Normed (Distributed by Osteotec Ltd) is a Zimmer company that specialises in the areas of hand, foot, orthopedic and cranio-maxillo-facial surgery.