



British Orthopaedic Foot & Ankle Society



SHEFFIELD 2017

ANNUAL SCIENTIFIC MEETING

1-3 NOVEMBER 2017
CITY HALL, SHEFFIELD

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GOLD SUPPORT EDUCATIONAL PARTNER



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WELCOME TO BOFAS 2017



It gives me great pleasure to welcome you to my adopted home city of Sheffield for the 2017 BOFAS Congress. I hope that you will find this year's meeting meets with my original aims of being both fun and helping us all to do better for our patients.

The City Hall is the main focus of the event but workshops will be held in the Mercure St Paul's Hotel, a 2 minute walk away. All the hotels are central and I hope you will find it easy to get about on foot.

What's new this year? Well, we have the AGM on Thursday, immediately after lunch and this was designed to maximise attendance so as to ensure that we are truly a democratic society, with electronic voting, thus enabling all BOFAS Members to elect new committee members from the Hustings. For Allied Health Professionals, whilst the AGM is occurring, we have set up an extension to your programme during this time and I am grateful to Noelene Davey and Jit Mangwani for putting this together. Senior Trainees are not forgotten and are encouraged to attend our Fellows' Symposium, being run concurrently to the AGM, by other senior trainees. This aims to answer some questions about fellowships and the career beyond and I am grateful to Tim Williams for helping put this together.

I hope you will find the programme to be both stimulating, with sessions on new innovations in our field and beyond, as well as practical, with sections on coping with life as a Foot and Ankle Consultant and an experts' session on 'how to get it right' in common procedures. I am, as always, grateful to James Davis and the Education committee for keeping my flights of ideas on track and Matt Solan and the Scientific committee for evaluating and putting the free paper and poster sections in order. Thank you too to the attendees for submitting your research ideas - I really do know how much work it takes.

Our overseas guests are Professors Judy Baumhauer from Rochester, New York and Lew Schon from Baltimore; both are friends of mine and surgeons with international reputations. They will teach us much and add to our fun - I am sure.

Talking of fun, socially there is some 'special musical entertainment' on Wednesday night at 10.30 in The Memorial Hall (on the curved side of the City Hall) after the industry dinners, and this aims to raise money for CURE International. I hope many will attend. The Conference Dinner on Thursday will be at the beautiful Cutlers Hall, an easy 3 minute walk from City Hall, where more fun and feasting will be the aim.

Jo Millard gets a special mention for doing such an excellent job as our administrator and although she always says it's 'just her job', we would struggle without her. Thank you to all the committee and council members who have made this year as your president so exciting and yet straightforward. Lastly, my colleagues in Sheffield and my family have, as always, put up with me and supported me at every turn - thank you very much.

HAVE FUN AND LEARN

Chris Blundell.



CARTIVA[®]
Synthetic Cartilage Implant

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for the Treatment of
1st MTP Osteoarthritis

CARTIVA[®] WET LAB WORKSHOP

Thursday 2nd November 2017
Mercure Sheffield St Paul's Hotel

Presented by Chris Blundell, Mark Davies and Howard Davies

09.00am - 10.30am or 10.30am - 12.00pm

Chris Blundell, Mark Davies and Howard Davies present Cartiva[®] Synthetic Cartilage Implant and 5 year mid-term Motion Study results, followed by Wet Lab workshop – a hands on practical experience for all attendees and Q&A opportunity.

Certificate of attendance given.

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GENERAL INFORMATION

CITY CENTRE MAP

Registration & Exhibition Timings

Day	Registration Open	Lunch	Meeting Close
Wednesday 1st Nov	08.00	13.00 - 13.45	18.00
Thursday 2nd Nov	08.00	12.00 - 12.30	17.30
Friday 3rd Nov	08.00	Brunch 11.15 - 11.45	14.00

On registration you will receive a badge, a programme and a pen. If you opted for a conference bag at the time of registration you will also receive a delegate bag containing inserts from our Gold Sponsors this year.

Gala Dinner Tables

The gala dinner will be held at Cutlers' Hall, a short 5 minute walk from City Hall.
Address: Cutlers' Hall Church St, Sheffield S1 1HG

Dinner tables will be in Sprig formation this year and will not be pre-booked.

If you are a vegetarian or have a food allergy, there will be a place card for you to collect before you enter the hall for dinner.

Cloakroom

The cloakroom will be open between 08.00hrs – 18.00hrs daily.
It is located on the lower ground floor in the City Bar.

CPD Points

Wednesday 5 points, Thursday 6 points, Friday 3.5 points.

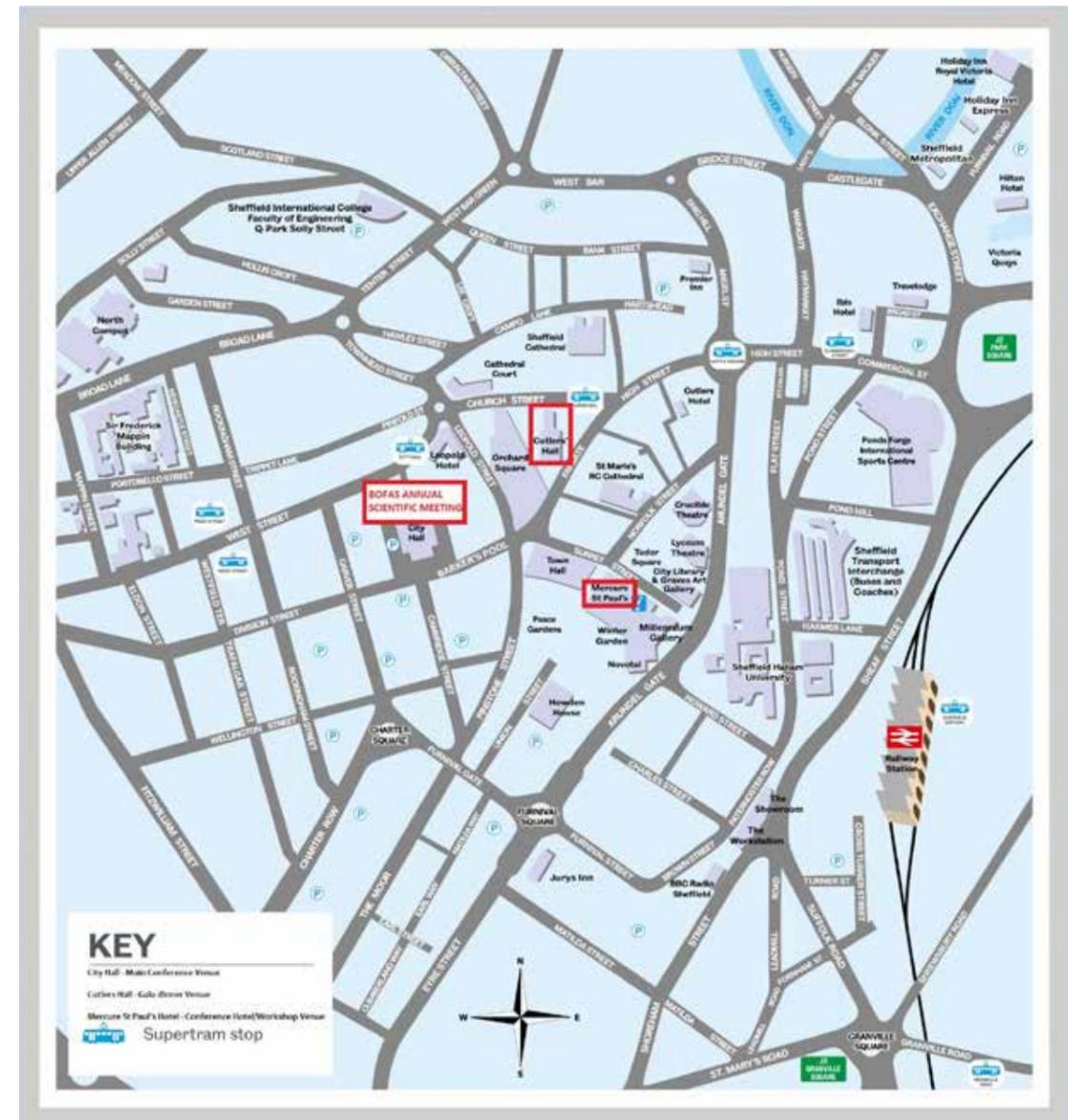
Badge Types

Faculty	Red
BOFAS Full Member	Dark Blue
BOFAS Retired Member	Dark Blue
Allied Health Professional	Light Blue
Trainee	Light Blue
Exhibitor	Green

Refreshments

Tea and coffee will be served daily in the exhibition areas shown on the Exhibition Plan during the morning and afternoon break.

Lunch will be served on Wednesday and Thursday in the exhibition areas shown on the Exhibition Plan.
Brunch will be served on Friday during the midmorning break due to programme timings.



Train

Visit www.eastmidlandtrains.co.uk for further information and routes.

Local Public Transport

Sheffield has both a Supertram and also reliable bus service.
Visit www.supertram.com for further details and a city tram map.

Local Taxis

Sheffield City Taxis are recommended – visit www.sheffieldcitytaxi.com for more details.

Parking

Q-Park Charles Street, 72 Charles St • 0843 504 8732
www.q-park.co.uk/parking/sheffield/q-park-charles-street

Q-Park Castlegate, 3 Broad Street West
www.q-park.co.uk/parking/sheffield/q-park-castlegate

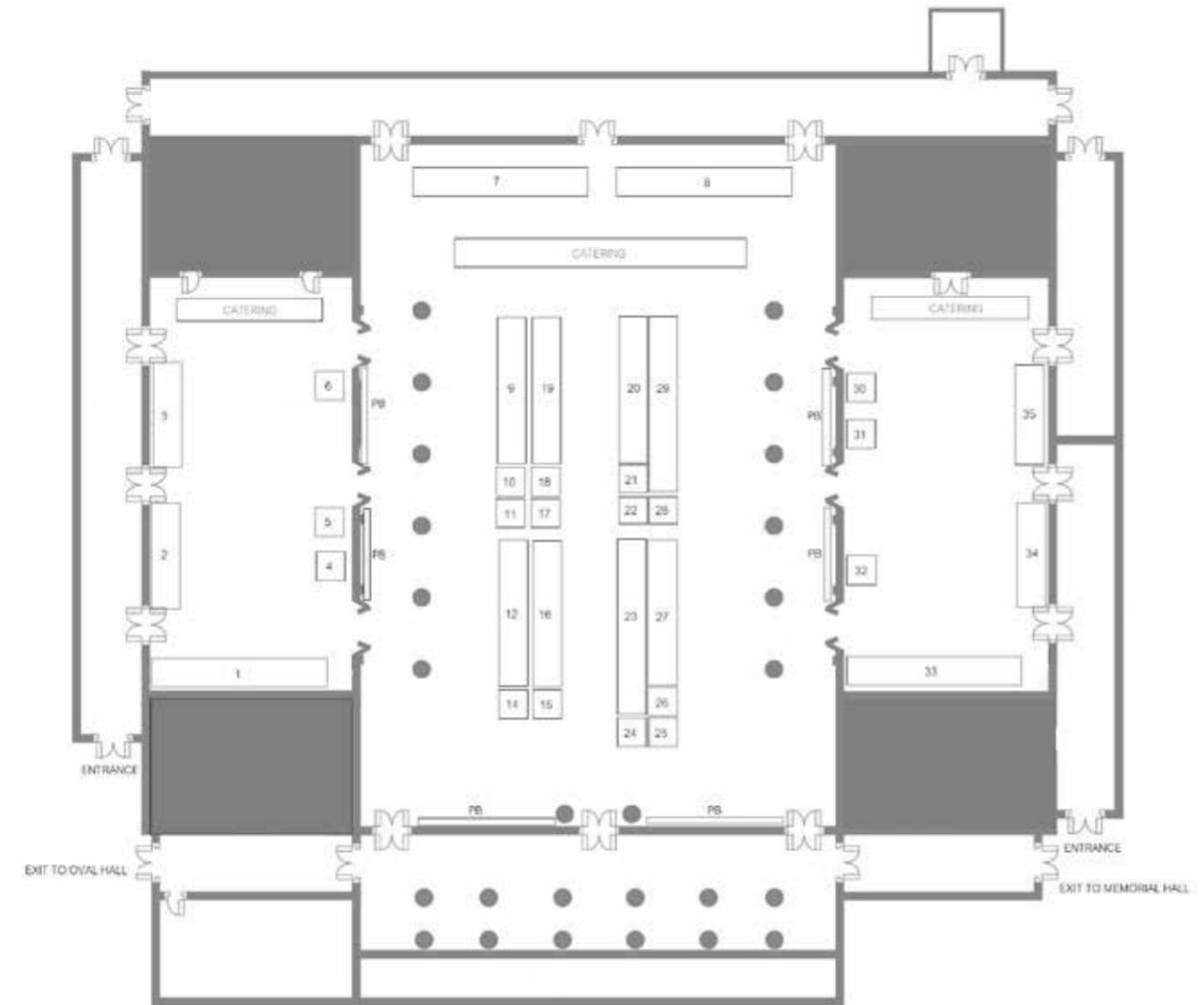
POSTER LOCATIONS

EXHIBITION PLAN

Poster presentations can be found on the Lower Ground Floor Exhibition Area.

Lower Ground Exhibition Area

1. Evaluation of patient-led post-operative wound self-care following foot surgery
2. Fixation of ankle fractures: a major trauma centre's experience in improving quality
3. Radiologic assessment of Minimally Invasive Chevron and Akin (MICA) procedure for the correction of moderate and severe hallux valgus
4. A comparison of two designs of post-operative shoe on function, satisfaction and back pain after hallux valgus surgery
5. Speedbridge re-attachment of the Achilles tendon for insertional tendinopathy
6. Single stage reconstruction of combined skin and Achilles tendon defects with free composite perforator flaps
7. Patient related outcome measures (PROMs) in Morton's neuroma: conservative vs. surgical management at one-year
8. Needle placement in foot compartment pressure monitoring: a cadaveric study
9. Preserving the diabetic foot - outcomes of diabetic foot ulceration and osteomyelitis treated with antibiotic loaded stimulan
10. A cadaveric comparison of the anterior inferior tibiofibular ligament (AITFL) versus the posterior inferior tibiofibular ligament (PITFL) in preventing talar shift in syndesmotic ankle injuries
11. Arthroscopic ATFL ligament reinforcement: a case series
12. Chronic ankle instability following minor avulsion fractures of the fibula in children
13. Partial excision of navicular and extended triple arthrodesis and bone grafting for Müller-Weiss disease
14. The plantar support of the navicular cunieform joint - a major component of the medial longitudinal arch
15. Regional anesthesia for foot and ankle surgery outcomes & patient satisfaction



Company	Stand Number
Arthrex	23
Arthrodx	17
Biocomposites	18
Biovation	7
Bioventus	21
Blatchford Group	10
BOA	5
Bone Support	20
Carestream	22
CORIN	30
DePuy	35
EMS	16
Episcan	6

Company	Stand Number
FH Ortho	32
Firstkind	3
Implants International	14
Int2Med	15
Integra	26
Joint Operations	4
Lavender Medical	9
Matortho	28
Medartis	19
OPED	25
Orthofix	27
Orthosolutions	8
Paragon28	12

Company	Stand Number
Ramsay Healthcare	31
Stryker	33
The Standing CT Company	34
Thuasne UK	24
Vertec	11
Virtual reality software	2
Wright	29
Zimmer Biomet	1

POSTER BOARDS	PB

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GOLD SPONSOR WORKSHOPS

WEDNESDAY 1ST NOV
IN THE MITCHELL OVAL HALL

Arthrex **Live Demonstration workshop**

Workshop times: 17.45 - 18.45

Cadaveric demonstrations will be performed from the Arthrex Mobile Surgical Skills Lab by Mr Rhys Thomas (Cardiff) and Mr Steve Hepple (Bristol) during this hugely educational workshop. Hosted by Mr Mike Butler (Truro) and Miss Carolyn Chadwick (Sheffield) the demonstrations will cover: Syndesmosis TightRope® with Buttress Plate and InternalBrace™ along with Arthroereisis screw ProStop® and Achilles SpeedBridge™ techniques. Delivered in crystal clear SynergyUHD4 to the comfort of your seat in the main auditorium immediately after the main programme on Wednesday evening, 1st November, audience members will be able to pose questions directly to the demonstrators during the workshop.

THURSDAY 2ND NOV
IN THE MERCURE SHEFFIELD ST PAULS HOTEL

BIOVATION **Cartiva® Wet lab Workshop**

Presented by Chris Blundell, Mark Davies & Howard Davies

Workshop times: 9.00 a.m. – 10.30 a.m OR 10.30 a.m – 12.00 p.m

Chris Blundell, Mark Davies & Howard Davies present Cartiva® Synthetic Cartilage Implant & 5 year mid-term Motion Study results followed by Wet Lab workshop – a hands on practical experience for all attendees and Q&A opportunity

Certificate of attendance given

Wright Medical **Managing the Charcot Epidemic: The Future of Surgical Intervention**

Workshop times: 09:30 - 10:30 11:00 - 12:00

Wright Medical is pleased to introduce the SALVATION® Limb Salvage product portfolio. This portfolio is made up of 3 different product platforms that can be used individually or together in a complementary manner for advanced limb salvage cases. The products include the SALVATION® Plating System, SALVATION® Bolts & Beams and the SALVATION® External Fixation System.

This scientific workshop and debate is designed to address the challenges surrounding the growing diabetes epidemic and the treatment pathways for this demanding patient group.

FACULTY BIOGRAPHIES



Judy Baumhauer

Dr. Baumhauer serves as Associate Chair of Academic Affairs and Professor, Division of Foot and Ankle Surgery, Department of Orthopaedics at the University of Rochester. In addition to providing clinical care, she holds the position as the Medical Director of the PROMIS for the UR Health Care System and is a board of director of Accountable Health Partners, ACO for the Rochester Region.

She received her BS from Springfield College in Massachusetts; her MS in Biology from Middlebury College and her medical degree from the University Of Vermont College Of Medicine. She completed orthopaedic residency at the Medical Center Hospital of Vermont and a Fellowship in Foot and Ankle Surgery at the Medical College of Wisconsin. While working as an Attending at the University of Rochester, she obtained a MPH degree from the University of Rochester Department of Community and Preventive Medicine.

Dr. Baumhauer is the past president of the American Board of Orthopaedic Surgery, American Orthopaedic Foot and Ankle Society (AOFAS); and Eastern Orthopaedic Association. Dr. Baumhauer currently sits on the board of directors of the PROMIS Health Organization. Dr. Baumhauer has published over one hundred peer reviewed papers and book chapters. Her research interest focuses on the clinical translation patient reported outcomes. Using this skill, she leads the design and implementation of clinical trials to bring new, clinically important orthopaedic products through the FDA into the hands of physicians to improve and advance patient care. Dr. Baumhauer is a deputy editor for Clinical Orthopaedics and Related Research (CORR) and a reviewer for Foot and Ankle International, American Journal of Bone and Joint Surgery, and the Journal of Orthopaedic Research.



Chris Blundell

Chris Blundell specialises only in adult foot and ankle conditions. He is a consultant in Sheffield. He carried out two fellowships in foot and ankle surgery in Melbourne, Australia in 2001/2. He was awarded an MD for research into foot pressures. He is a Sheffield graduate whose higher surgical training was in Cambridge and Norwich. He is Clinical Lead for the Sheffield Foot and Ankle Unit, and Past Chairman of Sheffield Orthopaedics Ltd. He is President of BOFAS.



Jamie Buchanan

Mr Buchanan trained at the London medical school of St Mary's Hospital qualifying in 1986 and later completed his orthopaedic training in the North West Thames area. Nine months of his time was spent on a fellowship at the Perth Orthopaedic and Sports Medicine centre in West Australia. During his fellowship period he became proficient in the management of sports related problems with particular reference to shoulder and knee injuries.

Appointed as a Consultant Orthopaedic Surgeon at Conquest Hospital in 1998 he has continued as a general orthopaedic surgeon managing traumatic injuries, performing hip and knee replacements and has specialised in arthroscopic (keyhole) surgery and surgery of the shoulder and elbow.

Within the hospital he is actively involved in teaching junior doctors and surgeons. Mr Buchanan now provides tutorial education for the Royal College of Surgeons tutor, examining prospective orthopaedic consultants at national level and instructing in arthroscopic surgery on various courses around the country.

Mike Butler

Michael Butler qualified from Cambridge University and the London Hospital Medical College. Mr Butler trained in Orthopaedic Surgery in the South West of England and was awarded the Fellowship of the Royal College of Surgeons of England in Trauma and Orthopaedics in November 2007.

Mr Butler undertook further specialist training at the Avon Orthopaedic Centre and Frenchay Hospital and at the Nuffield Orthopaedic Centre in Oxford. He was appointed as a consultant in Truro in 2009. Mr Butler has served in the Army for over 20 years and continues to serve and have a role in teaching military and civilian surgeons on a number of courses as well as regularly conducting outpatient clinics in Germany.

Mr Butler is heavily involved in teaching, is the Peninsula Deanery Training Programme Director for Trauma and Orthopaedics and is a member of the SAC in T&O. He has continued to publish as a consultant and is a Review Board Member for Foot and Ankle Surgery and The Knee.



Michael Carmont

Mike Carmont is a Consultant Orthopaedic Surgeon working at the Princess Royal Hospital, Telford, Shropshire. He has a specialist interest in sports injuries of the foot and ankle, and the knee. He was formerly a Fellow with the UK's most prestigious Foot and Ankle Unit at the Northern General Hospital in Sheffield. He is a Past President of the British Orthopaedic Sports Trauma and Arthroscopy Association.

He has a specialist interest in managing patients with Achilles tendon rupture and tendinopathy. This includes an extensive research programme for patients following Achilles tendon rupture in collaboration with the University of Gothenburg. Key aspects include the optimization of functional outcome and return to sports and other activities following minimally invasive surgical repair and early functional rehabilitation.



Anna Chapman

Anna Chapman is a Consultant Trauma and Orthopaedic Surgeon at University Hospitals, Coventry and Warwickshire, with a specialist interest in Foot & Ankle surgery. She qualified from Guy's, Kings and St Thomas's Hospitals School of Medicine in London, and completed her orthopaedic training on the Warwick rotation. She undertook Fellowship training in Bournemouth and Bristol, and was appointed as a Consultant in 2012.

She completed a Master's Degree in Medical Education at the University of Warwick in 2010 and continues to pursue her interest in all things educational. Anna is currently the Deputy Training Programme Director for the Warwick Orthopaedic Specialist Training Programme and is a member of the BOFAS Education Committee.



Callum Clark

Callum Clark has been a consultant orthopaedic foot and ankle surgeon at Heatherwood and Wexham Park hospitals since 2004. He 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 is a member of the BOFAS Education Committee, has run an accredited postgraduate Foot and Ankle fellowship programme since 2007 and regularly teaches at regional and national courses.





Matt Costa

Matthew Costa is Professor of Orthopaedic Trauma Surgery at the University of Oxford and Honorary Consultant Trauma Surgeon at the John Radcliffe Hospital, Oxford.

Matt's research interest is in clinical and cost effectiveness of musculoskeletal trauma interventions. He is Chief Investigator for a series of randomised trials and associated studies supported by grants from the UK NIHR, Musculoskeletal Charities and the Trauma Device Industry. His work has been cited widely, and informs many guidelines from the National Institute for Health and Care Excellence.

Matt is Chair of the NIHR Clinical Research Network Injuries and Emergencies Specialty Group and the Scientific Committee of the National Hip Fracture Database. He is the Research Lead for the Orthopaedic Trauma Society and the NIHR Musculoskeletal Trauma Trials Network and a Specialty Lead in Trauma and Orthopaedics for the Royal College of Surgeons of England.



Mark B 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 S Davies

Mr Mark Davies specialises in all aspects of elective and trauma surgery relating to foot and ankle pathology. He is known for his non interventional approach to foot and ankle disorders and will only operate when there is no other reasonable alternative. From painful corns and bunions to complex reconstructive surgery and ankle replacements, he has a vast experience of foot and ankle surgery gathered over twenty years in his chosen clinical field. Mr Mark Davies was the orthopaedic foot and ankle surgeon for Chelsea Football Club as well as Tottenham Hotspur and Arsenal from 2005 – 2015.

Mr Mark Davies was appointed as a Consultant Orthopaedic Surgeon specialising in Foot and Ankle disorders at Guy and St Thomas' hospital in 1999 where he established the first Foot and Ankle Unit in the NHS in Central London. He has written chapters for Gray's Anatomy and New Aird's Companion in Surgical Studies as well as Bailey and Love's Short Practice of Surgery which is and has been the surgical text book of choice for medical students and surgeons in training. He has published over thirty papers and written many book chapters covering all aspects of foot and ankle surgery.



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 Chairman of the Education Committee and is an FRCS (Tr & Orth) examiner.

Andy Goldberg

Andy Goldberg specialises solely in foot and ankle conditions. He qualified at St Mary's Hospital Medical School (Imperial College) in 1994. His specialist training was on the North East Thames rotation in trauma and orthopaedics with a specialist fellowship in complex foot and ankle disorders at the Oxford Nuffield Orthopaedic Hospital with Mr Paul Cooke. Prior to this, he also spent a year on a travelling fellowship to 15 centres of excellence across the US and Europe. Andy became an orthopaedic consultant in 2009 and spent a year in Northampton before moving to the Royal National Orthopaedic Hospital NHS Trust in April 2010, where he has a joint appointment with UCL as a Clinical Senior Lecturer. He is highly published and has written several best-selling text books. He is a member of the BOFAS Outcomes Committee.



Kartik Hariharan

Kartik Hariharan is an expert surgeon who works in private practice and with the NHS. Mr Hariharan is a Consultant Trauma and Foot and Ankle Surgeon at the Royal Gwent Hospital and the clinical lead for Foot and Ankle Services for Gwent County. He is a Past President of the British Orthopaedic Foot and Ankle Society having completed his term in November 2012. Mr Hariharan is a fully practicing consultant in orthopaedic trauma and surgery, specializing in the foot and ankle, both with the NHS and in his private practice. He is the Chairman of the Clinical Commissioning Guidance Group for the British Orthopaedic Association for Foot and Ankle Surgery (BOFAS) and is a Specialist Adviser for the National Institute of Clinical Excellence.



Steve Hepple

Steve Hepple is a NHS consultant Foot & Ankle Surgeon, Honorary Senior Lecturer in Trauma and Orthopaedic Surgery and Clinical Director Musculoskeletal Services at North Bristol NHS Trust. He trained initially in Sheffield and Bristol before undergoing specialist training in Brisbane and Dallas. He specialises in sports injury, trauma and foot & ankle surgery including ankle arthroscopy and replacement.

Steve served two terms as BOFAS Treasurer and is the current BOFAS President Elect. He is also a faculty member of AO trauma.



Adam Hill

Adam Hill is a dual-qualified Clinician and Mechanical Engineer, with a career built at the interface of Academia, Industry and Health systems. In recent years, he has founded a successful applied research centre, enveloping an R&D programme with expertise in the optimization of novel products and systems, provided strategic advice to global life science companies on behalf of the British Government, and led the medical function in a multinational, publically-listed Health IT brand.

Recently appointed as the Chief Medical Officer of McLaren Applied Technologies, Adam is focused on applying the company's deep technical expertise to developing human-centric, data-driven solutions to challenging problems that inhibit the realisation of high quality health outcomes for all.

Adam graduated from Imperial College London as a Medical Doctor with gold medal; during this time, he also earned a PhD in Engineering and attended Business School. Having subsequently graduated from the Royal Military Academy Sandhurst, he received his postgraduate clinical training from the Royal College of Surgeons of England, and professional engineering qualification from the Institution of Mechanical Engineers while in the British Army. In addition, Adam has built a portfolio of over 100 publications, in addition to 12 academic awards and patents.





Jonathan Houghton

Jon is a consultant in Sports Medicine and Rheumatology working at Fortius Clinic London.

He worked as a consultant at the Defence Medical Rehabilitation Centre, Headley Court from 2006-13, completing a tour in Afghanistan and was lead consultant for the UK armed forces in Lower Limb Rehabilitation.

He is the Chief Medical Officer to the Football Association of Wales leading the medical team in EURO2016 and is Chief Medical Officer for Surrey CCC. He was one of the co-authors of the FSEM Ultrasound training guidelines and is the Chair of the RCP Sport and Exercise Medicine Committee. He specialises in tendon disorders, ESWT and Ultrasound guided interventions.



Rebecca Kearney

Dr Rebecca Kearney has held a joint appointment between University Hospitals Coventry and Warwickshire and Warwick Medical School since 2007, and was promoted to Associate Professor (Clinical) at Warwick Clinical Trials Unit 2016.

Dr Kearney has completed an Arthritis Research UK Fellowship (2009-2012) and NIHR Clinical Lectureship (2013-2016), and is currently undertaking an NIHR Career Development Fellowship (2017-2021). Her focus is leading the delivery of research programmes that evaluate the clinical and cost effectiveness of interventions in the area of trauma and orthopaedic rehabilitation. She is currently Chief Investigator for a series of multi centre randomised controlled trials underpinned by NIHR and musculoskeletal charity funding and jointly leads the trauma and orthopaedic team within Warwick Clinical Trials Unit.



Nikhil Kotnis

Dr Nikhil Kotnis has been a Consultant Musculoskeletal Radiologist at Sheffield Teaching hospitals for 7 years. Prior to this, he completed Registrar training in Nottingham and a Clinical Fellowship in Musculoskeletal Imaging at McMaster University in Hamilton, Canada. His specialist areas of interest are Sports, Sarcoma and Trauma Imaging. He works closely with his Foot & Ankle surgery colleagues and provides both diagnostic and interventional services for conditions affecting the foot and ankle.



Senthil Kumar

Mr Senthil Kumar completed his postgraduate training in Orthopaedics in Glasgow, before taking up the Consultant Orthopaedic Surgeon's post at Glasgow Royal Infirmary in 2001. He established the foot and ankle surgery unit there training a number of junior surgeons, podiatrists and nurses. A number of fellows have come for advanced foot and ankle training from around the UK in the recent past.

Several advanced techniques in the field of foot and ankle surgery were introduced by himself, most notably ankle replacement surgery and arthroscopy of ankle.

Playing an active role in training and examination of registrars; he also sits on various committees in postgraduate training and exams, currently an examiner both for the MRCS and FRCS (Tr&Orth) exams. He also has teaching responsibilities at Universities of Glasgow, Caledonian and Dundee.

Peter Metherall

Dr. Peter Metherall is a registered Clinical Scientist and Chartered Engineer at Sheffield Teaching Hospitals NHS Foundation Trust and is the lead scientist of the 3D Imaging Lab. He is responsible for the imaging computer systems and has developed image visualization software, which has now been licensed commercially. He has received two Chief Scientific Officer awards for innovation in 2005 and 2008. He is currently leading the implementation of the Sheffield 3D Imaging Lab; a new initiative to improve the clinical utility of Advanced Visualization and Quantitative Imaging for routine clinical imaging investigations and research applications.



Janardhan Rao

Mr Rao studied Medicine at the University of St Andrews, graduating with Honours in Bachelor of Science. He completed his education in surgery at the University of Victoria Manchester.

He was trained in Orthopaedics on the Cambridge program at Addenbrooke's Hospital and gained experience in the Norfolk and Norwich Hospital.

He completed a fellowship in Colorado, USA and gained further International experience with a travelling Fellowship including Australia and China.



Lew C. Schon

Dr. Lew Schon, M.D. is an orthopaedic surgeon at MedStar Union Memorial Hospital (MUMH) in Baltimore MD for the last 27 years. There he directs the Foot & Ankle Fellowship and is founder of the Orthobiologic Lab. He is an associate professor at both Johns Hopkins and Georgetown Universities. On the undergraduate level he works at JHU, University of Maryland, Goucher College and Towson University with Biomedical Engineering, Dance and Pre-Medical Students. He has over 130 peer-reviewed papers and over 80 other publications. He is a former president of the American Orthopaedic Foot and Ankle Society (AOFAS). He is a consultant to several professional and collegiate sports teams and dance companies including the Washington Nationals, Washington Capitals, Washington Wizards, Baltimore Ravens, DC United and the Baltimore Blasts. He is a co-inventor of 15 orthopaedic devices. In his non-professional life, he founded two orthopaedic rock bands: the Stimulators (MUMH) and the Sole Heelers (AOFAS). Most importantly he and his loving wife, Erika, are the parents of 5 sons.



Uttam Shiralkar

After working as a surgeon for 15 years in India, UK and USA Mr Shiralkar decided to enter in to psychological medicine. Developing interest in psycho-oncology and neurological problems he suffered after an accident emboldened this move.

After entering in to the psychological medicine, he realised just how much impact surgeon's psychological factors have on performance and clinical outcome. Mr Shiralkar felt that if he had known these factors while practicing as a surgeon, his performance could have been far better. He sensed the critical need for every surgeon to be made aware of these vital factors for their own benefits.

Since then he has been involved in various activities to improve surgical performance by applying research findings from cognitive science. His articles and papers on this topic have been published in internationally reputed peer reviewed surgical journals. British Medical Association has conferred 'highly commended book in surgery' award to one of my books.





Matt Solan

Matt Solan graduated from St Thomas' Hospital Medical School in 1992 and completed his training in Oxford, Guildford and London. He has worked overseas in South Africa and at the Universities of Johns Hopkins and Maryland, Baltimore, USA.

His NHS post is at the Royal Surrey County Hospital, Guildford. He has Research links with the University of Surrey. He is the current Chairman of the BOFAS Scientific Committee.



Rob Townsend

Rob is currently a Consultant Medical Microbiologist at Sheffield Teaching Hospitals NHS Foundation Trust. He is also an honorary senior clinical lecturer at the University of Sheffield. He started his working life as a biomedical scientist in microbiology and had his first scientific publication in 1991. Rob went on to pass his BSc honours degree in Biomedical Sciences and subsequently obtained a distinction in his MSc in Pathological Sciences. Rob successfully applied for medical school in 1995 and qualified in medicine in 2000, having done house jobs in medicine, surgery and infectious diseases. Rob was a SHO in infectious diseases before becoming a medical registrar in microbiology in 2002. In 2007 Rob was elevated to his current consultant role.

Rob's main clinical interest area is orthopaedic infections, where he has initiated orthopaedic ward rounds and an arthroplasty MDT on a weekly basis. He also co-created a new bone joint research group at Hallam University, whose special interest is antibiotic implant coatings. Rob gives educational lectures both nationally and internationally on orthopaedic infections.



Dave Townshend

David Townshend specialises in foot and ankle surgery in which he has experience in all aspects including bunion surgery, minimally invasive foot surgery, arthritis, ankle replacement and revision ankle replacement, sports injuries and ankle arthroscopy.

Mr Townshend is the trust's lead clinician for foot and ankle surgery.

He is actively involved in research including ankle arthritis, arthroscopic ankle fusion, ankle replacement, and Achilles tendon disorders.



PROGRAMMES

DAY 1: WEDNESDAY 1ST NOVEMBER

Time	Event	Speaker
08.00-08.50	Registration and coffee	
08.50-09.00	Welcome to BOFAS Sheffield 2017	Chris Blundell
09.00-10.30	TENDINOPATHIES <i>Chairs: Callum Clark, Howard Davies</i>	
09.00-09.20	Overview - what are they?	Mike Butler
09.20-09.30	Basic science - the collagen / tendon / paratenon and cells	Mike Carmont
09.30-09.40	Imaging Tendinopathies	Nik Kotnis
09.40-09.50	Stem cells in tendinopathies	Andy Goldberg
09.50-10.05	Non operative management	Jonathan Houghton
10.05-10.15	Operative management	Lew Schon
10.15-10.25	What not to do	Matt Solan
10.25-10.35	Discussion	
10.35-11.00	Coffee & Poster Viewing	
11.00-12.35	FREE PAPER SESSION 1 <i>Chairs: Roland Russell, Robert Clayton</i>	
12.35-13.00	KEY NOTE LECTURE 1 Patient Reported Outcomes: Are they living up to their potential?	Judy Baumhauer
13.00-13.45	Lunch	

Notes:

DAY 1: WEDNESDAY 1ST NOVEMBER

Time	Event	Speaker
13.45-15.15	WHAT'S ON THE HORIZON <i>Chairs: Hiro Tanaka, Carolyn Chadwick</i>	
13.45-14.05	Advances in rehabilitation in high performance individuals	Jonathan Houghton
14.05-14.20	Cool Surgical Innovations in Foot and Ankle and the Science that Supports Their Use	Judy Baumhauer
14.20-14.35	What's new in Industry	Adam Hill Maclaren
14.35-14.50	Orthopaedic microbiology - is it all Black Magic?	Rob Townsend Microbiologist
14.50-15.05	3D Modelling - Where do we go from here?	Peter Metherall John Fenner David Randall
15.05-15.15	Questions	
15.15-15.45	Coffee	Poster Viewing
15.45-17.15	WHEN THE GOING GETS TOUGH.... <i>Chairs: Chris Blundell, Kartik Hariharan</i>	
15.45-15.55	Early years as consultant-GIRFT	Anna Chapman
15.55-16.05	Assessing Trainees	James Davis
16.05-16.25	What about equality?	Janardhan Rao
16.25-16.45	How to get better at what you do... building teams and doing it right	Jamie Buchanan
16.45-17.05	'Mind your business' - managing stress in surgical practice	Uttam Shirralkar
17.05-17.15	Discussion	
17.15-18.30	Poster viewing/reception	Drinks in Ballroom
22.00-01.00	ToeJam 	Memorial Hall

Notes:

DAY 2: THURSDAY 2ND NOVEMBER

Time	Event	Speaker
09.00-12.05	AHP MEETING - Memorial Hall <i>Chairs: Jitendra Mangwani, Tim Williams</i>	
09.00-10.30	DIFFICULT CASES - Oval Hall <i>Chairs: Anthony Sakellariou, Rajesh Kakwani</i>	
09.00-12.00	WORKSHOPS - Mercure St Pauls Hotel (please see page 11 for details)	
12.00-12.30	Lunch for all (Ballroom)	
12.40-14.30	AHP MEETING - Memorial Hall <i>Chairs: Prof. Judy Baumhauer, Sylvia Wojciechowski, Tobias Bremer, Noelene Davey</i>	
12.40-14.30	BOFAS FELLOWSHIP FORUM - City Suite Mercure St Paul's Hotel <i>Chairs: Caroline Lever, Ed Dawes</i>	
12.40-14.30	BOFAS AGM - Oval Hall	
14.35-15.00	Coffee & Poster Viewing	
15.00-16.00	FREE PAPERS 2 <i>Chairs: Matt Solan, Dave Townshend</i>	
16.00-17.00	HOW I DO IT - THE EXPERTS - "POT POURI OF ISSUES" <i>Chairs: Rick Brown, Paul Halliwell</i>	
16.00-16.10	Gastroc release	Matt Solan
16.10-16.20	Ankle arthroscopy	Callum Clark
16.20-16.30	Ankle fracture - posterior malleolus	Mark B Davies
16.30-16.40	Calcaneal osteotomy	Kartik Hariharan
16.40-16.50	Triple fusion	Steve Hepple
16.50-17.00	Ankle fusion	Mark S Davies
19.30	Dinner at Cutlers Hall	

Notes:

DAY 2: THURSDAY 2ND NOVEMBER DETAILED AGM

Time	Event	Speaker
12.40-14.30	BOFAS AGM - MITCHELL OVAL HALL	
12.40-12.50	New Members Vote/Council and President Elect	Chris Blundell
12.50-13.00	President Report	Chris Blundell
13.00-13.10	Ed Comm Report	James Davis
13.10-13.20	Sci Comm Report	Matt Solan
13.20-13.30	Out Comm Report	Andy Molloy & Paul Halliwell
13.30-13.40	EFAS Report	Don McBride
13.40-13.50	Secretary and Coding Report	Trish Allen
13.50-14.00	Webmaster Report	James Ritchie
14.00-14.10	Treasurer Report	Heath Taylor
14.10-14.30	Soap Box – time for floor to bring matters to attention of council	
14.30-14.35	Results of Vote/Council and President Elect Appointments	Chris Blundell

Notes:

DAY 2: THURSDAY 2ND NOVEMBER

AHP PROGRAMME

Time	MORNING SESSION	Speaker
09:00-09:05	Welcome and introduction	Noelene Davey
09:05-09:35	Is CRPS and auto-immune disease?	Dr Andreas Goebel
	<p>Dr. Andreas Goebel was born and raised in Wiesbaden/Germany. He trained in Anaesthesia / Pain Medicine in Wuerzburg/Germany, and in the UK (Oxford, UCL), and received further training in post-trauma immunology at Harvard Medical School, Boston, US. He has been appointed Consultant in Pain Medicine at the Liverpool Walton Centre in 2007, and Senior Lecturer at the University of Liverpool in 2008, Reader in 2016. Dr. Goebel's research has focused on the role of the immune system in causing chronic pain. Based on his laboratory work he has developed the idea of 'autoantibody-pain', a conceptual framework for explaining persistent Complex Regional Pain Syndrome (CRPS), and additional chronic pains. He has been successfully testing innovative immune-modulating treatments, particularly for the group of patients with longstanding CRPS. Dr. Goebel has initiated, and has been leading the UK interdisciplinary CRPS Guidelines Group, under the Umbrella of the UK Royal College of Physicians, which has published its first guidance in May 2012 endorsed by 21 UK professional organisations and Royal Colleges.</p>	
09:35-10:00	CRPS Introduction and Physio interventions	Selina Johnson
	<p>Selina currently works as a pain specialist physiotherapist and acting physio lead for the pain management programme at The Walton Centre. Her work gives her the opportunity to work on the various pain management programmes provided at the Walton Centre, and within pain clinics providing individual physiotherapy support for chronic conditions. She has a particular interest in pelvic pain and CRPS and runs outpatient CRPS physio clinics and is a physio lead on their pelvic pain management programme.</p>	
10:00-10.25	Therapeutic interventions for CRPS and neuropathic pain	Dr Stephen Humble
	<p>Dr Stephen Humble is a Consultant and Honorary Senior Lecturer in Anaesthetics and Pain Medicine at Charing Cross Hospital and St Mary's Hospital, Imperial College Healthcare NHS Trust London. He qualified in Medicine at the University of Aberdeen in 2000. He trained in Anaesthesia and Pain Medicine in Scotland and Australia respectively. In addition, he also completed a MSc in Pain Management from the University of Edinburgh in 2010 and a PhD in Neuroscience in 2012. His specialist interests include the management of neuropathic pain as well as local anaesthetic and steroid injections for joint pain and spinal pain. He has published numerous medical and scientific papers in high-level journals and spoken about his work at many conferences and meetings. Through his research he has adopted cutting edge techniques that are only performed by a small number of specialised doctors such as radiofrequency therapy for spinal pain and nerve entrapment syndromes as well as capsaicin patch therapy for painful peripheral neuropathy.</p>	
10:30-11:00	Coffee/Tea break	
11:00-11:12	CRPS & Neuropathy - differences between them	Dr Channa Hewamadduma
	<p>Dr Hewamadduma is a Consultant Neurologist and Honorary Senior Lecturer at Sheffield Teaching Hospitals Trust and University of Sheffield with specialist interest in Neuromuscular disorders, MND and Sleep Medicine.</p>	
11:15-11:40	The surgeon's perspective on CRPS	Dr Lew Schon
11.45-12:00	Panel discussion	All speakers
12:00-13:00	Lunch in the Exhibition Hall	

AFTERNOON SESSION

Chairs: Prof. Judy Baumhauer, Sylvia Wojciechowski, Tobias Bremer, Noelene Davey

13:00-13.25	OA: Obesity and inflammatory mechanisms	Dr Simon W Jones
	<p>Dr Simon Jones is a Senior Lecturer at the MRC-ARUK Centre for Musculoskeletal Ageing Research at the University of Birmingham. His research is focused on understanding the inflammatory mechanisms that drive OA pathology and the effect of obesity on OA joint tissues. He previously spent over 9 years in the Pharmaceutical industry and first started working on OA in 2003 when he joined AstraZeneca Pharmaceuticals where he led drug discovery projects from Target Identification through to preclinical development. During this time he made an important contribution to the research field of "non-coding RNAs", being the first to report the functional role of microRNAs in regulating the release of pro-inflammatory cytokines from human OA chondrocytes.</p>	
13:30-13:55	Embolisation for OA & Tendinopathy: A new treatment option.	Dr Nick Burfitt
	<p>Dr Nick Burfitt is a Consultant in Interventional Radiology at Imperial College Healthcare NHS Trust London. He qualified in Medicine at the University of Cambridge in 1997. His specialist interest has been vascular intervention for a number of years, in particular the treatment of complex aortic aneurysms, occlusive deep venous disease and peripheral arterial disease. More recently he has been involved in the use of embolization as novel treatment in prostatic benign hypertrophy and most recently for early osteoarthritis and tendinopathies.</p>	
13:55-14:20	Surgical planning / considerations in the elderly patient?	Dr Nicki Morgan
	<p>Dr Nicki Morgan qualified in 1993 from Nottingham University and have enjoyed a wide variety of training posts within the East Midlands region and New Zealand prior to being appointed as a Consultant Geriatrician with a specialist interest in OrthoGeriatrics and Hip fracture care at the Leicester Royal Infirmary in 2006. She has been recognised as an Older Persons Champion within the trust and has helped drive through a number of service improvements within the orthopaedic and trauma unit relating to older people. Nicki is passionate about improving the acute hospital experience for older patients particularly those with frailty and dementia and has been the Clinical Lead for Dementia within the trust. Within her clinical role she currently works predominantly with the Orthopaedic surgical team, and also as a member of the Frail Older Person Advice and Liaison (FOPAL) team She is committed to improving education and training and has been a Training Programme Director for Higher Specialist Trainees in Geriatric Medicine since 2012, Previous Secretary of the Trent BGS, Royal College representative and External PYA advisor. Nicki has more recently taken on the role of Clinical Tutor within the Department of Medical Education, UHL NHS Trust and is enjoying this new challenge</p>	
14.20-14:30	Closing Discussion	Panel

DAY 2: THURSDAY 2ND NOVEMBER

FELLOWS PROGRAMME

Time	Event	Speaker
12.40	Introduction	Caroline Lever & Ed Dawe
FELLOWSHIP EXPERIENCES		
12.45	UK Fellowship experience	Tim Sinnett
12.50	Overseas Fellowship experience	Charlie Jowett
12.55	BOFAS Leadership fellows programme	Victoria Sinclair
13.00	Questions	Panel
FELLOWSHIPS THE GOOD, THE BAD & THE UGLY		
13.15	What makes a good fellowship?	Pavel Akimau
13.20	How fellowship prepared me for life as a Consultant	Tom Ball
13.25	Panel discussion: How can we improve fellowship training?	Panel
13.40	Questions	
EMPLOYING A FOOT AND ANKLE CONSULTANT SURGEON		
13.55	The trauma centre perspective	Dominic Nielsen
14.00	The DGH perspective	Ian Gill
14.05	Questions / Discussion	Panel
14.30	Close	

Notes:

DAY 3: FRIDAY 3RD NOVEMBER

Time	Event	Speaker
08.30-09.30	CURRENT BUSINESS ISSUES <i>Chairs: Andy Molloy</i>	
08.30-09.00	BOFAS REGISTRY Registry Update PROMS Discussion	Paul Halliwell
09.10-09.25	NJR Update Questions	Andy Goldberg
09.30-10.45	FREE PAPERS 3 <i>Chairs: Robert Clayton, Tim Clough</i>	
10.45-11.15	KEY NOTE LECTURE 2 What's going on in Ankle Arthroplasty?	Lew Schon
11.15-11.45	Coffee / Brunch	

Notes:

DAY 3: FRIDAY 3RD NOVEMBER

Time	Event	Speaker
11.45-12.30	RESEARCH UPDATE <i>Chairs: Matt Solan, Roland Russell</i>	
11.45-12.20	Research Update for foot and ankle	Matt Costa and Becky Kierney
12.20-12.30	Tibial Pilon Fracture Trial	Matt Costa
12.30-13.50	TRICKY ARTHRITIC BITS <i>Chairs: Rhys Thomas, James Davis</i>	
12.30-12.40	Arthritis of the 2nd MTPJ	Mark B Davies
12.40-13.00	IPJ Pain but fused 1st MTPJ - what to do?	Dave Townshend
13.00-13.20	4/5 TMT pain-options for treatment	Senthil Kumar
13.20-13.35	Questions	
13.35-13.45	Best paper presentations	Matt Solan & Chris Blundell
13.45-13.50	Klenermann Award Presentation	Trish Allen
13.50-14.00	Presidential Handover to Steve Hepple	Chris Blundell
14.00	Close of Meeting	

Notes:

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FREE PAPERS
ABSTRACT SUMMARY

FREE PAPERS 1

Wednesday 1st November 2017

Chairs: Roland Russell / Robert Clayton

FP1 : 11:00

Windows to the midfoot - the safety of a modified dorsal approach in a series of 150 Lisfranc injuries

S. Chambers¹, A. Philpott², C. Lawford², S. Lau², A. Oppy²

¹Royal Victoria Infirmary, Newcastle, United Kingdom,

²Royal Melbourne Hospital, Melbourne, Australia

FP2 : 11:06

Lisfranc fracture dislocations: percutaneous reduction and fixation using screws

E. Iliopoulos¹, S. Agarwal¹, A. Khaleel¹

¹Ashford & St Peter's Hospital, Trauma & Orthopaedics, Chertsey, United Kingdom

DISCUSSION : 11:12

FP3 : 11:16

Talus fractures: are they as bad as we think they are? A review of 28 cases in a tertiary trauma centre

A. Touzell¹, W. Harries¹, I. Winson¹, A. Pentlow¹

¹North Bristol Trust, Bristol, United Kingdom

FP4 : 11:22

The lateral malleolar bony fleck classified by size and pathoanatomy

J. Wong-Chung^{1,2}, M. Lynch-Wong³, D. Gibson³, A. Tucker³

¹Altnagelvin Hospital, Trauma and Orthopaedics, Londonderry, United Kingdom,

²University of Ulster, Londonderry, United Kingdom,

³Altnagelvin Hospital, Londonderry, United Kingdom

FP5 : 11:28

Is magnetic resonance imaging (MRI) reliable in the diagnosis of osteochondral lesions (OCL's) in the ankle?

T. Nurm¹, P. Torres¹, J. Ramaskandhan¹

¹Newcastle upon Tyne Hospitals NHS Foundation Trust, Newcastle upon Tyne, United Kingdom

DISCUSSION : 11:34

FP6 : 11:40

Are ankle dislocations being diagnosed and reduced in a timely manner?

D. O'Dowd¹, P. Brewer¹, M. Davies¹, K. leese¹, C. Chadwick¹, H. Davies¹, C. Blundell¹

¹Sheffield Teaching Hospitals NHS Foundation Trust, Trauma and Orthopaedics, Sheffield, United Kingdom

FP7 : 11:46

Assessing the risk factors in the management of diabetic ankle fractures: can rigid-long segment fixation (RISF) improve outcomes

R. Ahluwalia¹, F. Rhamen¹, V. Kavarthapu¹

¹Kings College Hospital NHS Trust, London, United Kingdom

FP8 : 11:52

Do stable Weber B ankle fractures pose an unnecessary load on fracture clinics? A prospective review of 100 patients

A. Konarski¹, S. Ahmed Kamel¹, A. Pillai¹

¹Wythenshawe Hospital, University Hospital of South Manchester NHS Foundation Trust, Manchester, United Kingdom

FP9 : 11:58

Low risk of delayed talar shift with functional management of the isolated Weber B fracture - results of a new treatment protocol.

N. Obi¹, S. Chambers¹, A. Kilit², C.S. Kumar¹, N.J. Madeley¹

¹Glasgow Royal Infirmary, NHS GGC, Glasgow, United Kingdom,

²University of Glasgow Medical School, Glasgow, United Kingdom

FP10 : 12:04

The development of a test for fibular reduction after syndesmosis injury - a cadaveric study

R. Boyd¹, F. Bintcliffe²

¹Royal Surrey County Hospital, Guildford, United Kingdom,

²Conquest Hospital, Hastings, United Kingdom

FP11 : 12:10

Posterior malleolar ankle fractures - an effort in improving outcomes

E. Swanton¹, J. Widnall¹, J. Redfern¹, J. Alsousou¹, A. Molloy^{1,2}, L. Mason^{1,2}

¹University Hospital Aintree, Liverpool, United Kingdom,

²Liverpool University, Liverpool, United Kingdom

DISCUSSION : 12:16

FREE PAPERS 2

Thursday 2nd November 2017

Chairs: Matt Solan / Dave Townshend

FP12 : 15:00

Beware the hallucal interphalangeal joint sesamoid in first ray arthrodesis

M. Arneill¹, R. Lloyd¹, J. Wong-Chung¹

¹Altnagelvin Area Hospital, Trauma & Orthopaedics, Londonderry, United Kingdom

FP13 : 15:06

'The Myerson 'Rollmop' Interpositional Arthroplasty a Novel Surgical Technique for Severe Freiberg's Disease: Medium-term functional outcomes, return to fashion footwear and sports'

W. Abdul¹, B. Hickey¹, A. Perera¹

¹University Hospital of Wales, Department of Trauma & Orthopaedic Surgery, Cardiff, United Kingdom

FP14 : 15:12

New technique to treat severe crossover toe deformity

V. Naidu¹, T. Holme¹, S. Mahir¹, S. Parabaran¹

¹Croydon University Hospital, Croydon, United Kingdom

FP15 : 15:18

Unstable metatarsal-phalangeal joints (MTPJ): what went wrong? A description of a novel technique to stabilize it

F. Alam¹, G. Chami¹, T. Drew¹

¹University of Dundee, Orthopedics, Dundee, United Kingdom

DISCUSSION : 15:24

FP16 : 15:30

Increased recurrence in Scarf osteotomy for mild & moderate hallux valgus with Meary's line disruption

O. Bagshaw¹, R. Faroug², L. Conway³, J. Ballester⁴

¹NHS, Whiston, United Kingdom,

²Royal Liverpool Hospital, Orthopaedics, Liverpool, United Kingdom,

³Royal Liverpool Hospital, Liverpool, United Kingdom,

⁴Whiston Hospital, Whiston, United Kingdom

FP17 : 15:36

Current review of midterm outcomes of synthetic cartilage implant hemiarthroplasty of the first metatarsophalangeal joint in advanced hallux rigidus

H. Davies¹, C. Blundell¹, T. Daniels², M. Glazebrook³, J. Baumhauer⁴, A. Younger⁵, I. Le⁶, E. Pedersen⁷, Cartiva Study Group

¹Sheffield Teaching Hospitals NHS Foundation Trust, Sheffield Foot & Ankle Unit, Sheffield, United Kingdom,

²St Michaels Hospital, Division of Orthopaedic Surgery, Toronto, Canada,

³Dalhousie University and Queen Elizabeth II Health Sciences Center, Dept of Orthopaedic Surgery, Halifax, Canada,

⁴University of Rochester School of Medicine and Dentistry, Department of Orthopaedics, Rochester, United States,

⁵University of British Columbia, Department of Orthopaedics, Vancouver, Canada,

⁶University of Calgary, Department of Orthopaedics, Calgary, Canada,

⁷University of Alberta, Department of Orthopaedics, Edmonton, Canada

FP18 : 15:42

Silastic 1st metatarsal phalangeal joint replacement for the treatment of end stage hallux rigidus: analysis of a consecutive series of 108

J. Ring¹, T. Clough¹

¹Wrightington, Wigan and Leigh NHS Hospital Trust, Lancashire, United Kingdom

FP19 : 15:48

Association between patient factors and outcome of synthetic cartilage hemiarthroplasty (Cartiva) versus first metatarsophalangeal joint arthrodesis in advanced hallux rigidus

A. Goldberg^{1,2}, M. Glazebrook³, T. Daniels⁴, G. de Vries⁵, M.E. Pedersen⁶, A.S.E. Younger⁷, D. Singh¹, C. Blundell⁸, A. Sakellariou⁹, J. Baumhauer¹⁰, The Cartiva Motion Study Group

¹Royal National Orthopaedic Hospital NHS Trust, Foot & Ankle Unit, Stanmore, United Kingdom,

²UCL, Division of Surgery, London, United Kingdom,

³Dalhousie University and Queen Elizabeth II Health Sciences Center, Orthopaedics, Halifax, Nova Scotia, Canada,

⁴St. Michael's Hospital, Division of Orthopaedic Surgery, Toronto, Ontario, Canada,

⁵Dalhousie University and Memorial University of Newfoundland, Orthopaedics, Fredericton, New Brunswick, Canada,

⁶University of Alberta, Orthopaedics, Edmonton, Alberta, Canada,

⁷University of British Columbia, Department of Orthopaedics, Vancouver, Canada,

⁸Northern General Hospital, Foot & Ankle, Sheffield, United Kingdom,

⁹Frimley Park Hospital, Foot & Ankle, Frimley, United Kingdom,

¹⁰University of Rochester School of Medicine and Dentistry, Department of Orthopaedics, New York, United States

DISCUSSION : 15:54

FREE PAPERS 3

Friday 3rd November 2017

Chairs: Robert Clayton / Tim Clough

FP20 : 09:30

Differential gene expression in ankle cartilage chondrocytes compared to knee: might this explain the difference in prevalence of osteoarthritis in these joints and identify a potential treatment target?

A. Miller^{1,2}, P. Hodgson², E. Blain¹

¹Cardiff University, Arthritis UK Biomechanical and Bio-engineering Unit, Cardiff, United Kingdom,

²University Hospital of Wales, Trauma and Orthopaedics, Cardiff, United Kingdom

FP21 : 09:36

Augmented debridement in implant infection with absorbable, gentamycin loaded calcium sulfate/hydroxyapatite biocomposite

E. Drampalos¹, H. Mohammad¹, U. Halim¹, M. Balal¹, J. Wong¹, A. Pillai¹

¹Wythenshawe Hospital, University Hospital of South Manchester NHS Foundation Trust, Manchester, United Kingdom

FP22 : 09:42

The results of arthroscopic and open FHL tendon transfers

P.W. Robinson¹, S. Senthil¹, A. Nall¹, S. Hepple¹, W. Harries¹, I. Winson¹

¹Avon Orthopaedic Centre, Trauma & Orthopaedics, Bristol, United Kingdom

DISCUSSION : 09:48

FP23 : 09:54

The Scottish Arthroplasty Project: outcomes of 601 total ankle replacements over a 20 year period

Z. Higgs¹, C.S. Osam², C. Watling², P.J. Jenkins¹, C.S. Kumar¹

¹Glasgow Royal Infirmary, Department of Orthopaedics, Glasgow, United Kingdom,

²Information Services Division (ISD), NHS National Services Scotland, Edinburgh, United Kingdom

FP24 : 10:00

What is the effect of BMI on total ankle replacement and the effect of ankle replacement on BMI?

S. Johnson-Lynn¹, J. Ramaskandhan¹, M. Siddique¹

¹Freeman Hospital, Orthopaedics, Newcastle upon Tyne, United Kingdom

FP25 : 10:06

Total ankle replacement: 6 year survivorship of 118 consecutive Zenith Ankle replacements from a non-designer centre

J. Ring¹, J. Davenport¹, M. Karski¹, R. Smith¹, H. Divercha¹, T. Clough¹

¹Wrightington, Wigan and Leigh NHS Hospital Trust, Lancashire, United Kingdom

DISCUSSION : 10:12

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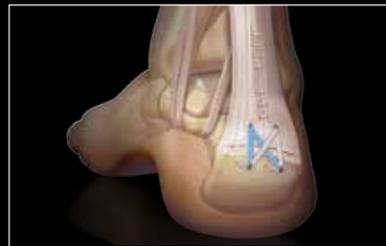
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BOFAS

FREE PAPERS
ABSTRACT DETAILED

FREE PAPERS 1

Wednesday 1st November 2017

FP1

Windows to the midfoot - the safety of a modified dorsal approach in a series of 150 Lisfranc injuries

S. Chambers¹, A. Philpott², C. Lawford², S. Lau², A. Oppy²

¹Royal Victoria Infirmary, Newcastle, United Kingdom,

²Royal Melbourne Hospital, Melbourne, Australia

Introduction: We describe a novel single incision approach and its safety in the largest reported series of Lisfranc injuries to date. Via separate subcutaneous windows it is possible to access the medial three rays of the foot for bridge plating, without the concern of narrow skin bridges between multiple incisions.

Methods: A retrospective review identified all 150 patients who underwent a Lisfranc ORIF via the modified dorsal approach at the Royal Melbourne Hospital between January 2011 and June 2016. All patients were operated by a single surgeon. Removal of metalwork (ROM) was routinely undertaken at six months post-operatively via the same incision. Medical records were reviewed to record patient demographics, mechanism of injury and surgical details. Outpatient notes were reviewed to identify wound-related complications including; delayed wound healing, superficial infection, wound dehiscence, deep infection, complex regional pain syndrome (CRPS), neuroma and impaired sensation. Median follow-up was 1012 days (range 188-2141).

Results: Median age was 37 years (19-78). 110 (73%) patients were male. Mechanism of injury was: motor vehicle accident (37%), motor bike accident (19%) and fall (18%). 24 (16%) injuries were open, 5 of which required soft tissue reconstruction at the primary surgery. A total of 34 wound related complications occurred (22%); superficial infection (14), delayed wound healing (7), wound dehiscence (5), CRPS (4), impaired sensation (3), neuroma (1). Re-operation was necessary in the 5 patients who experienced wound dehiscence; 4 requiring split skin grafts and 1 requiring a free flap. Crush injuries were 10 times more likely to have wound complications than those sustained in motor vehicle accidents. Patients undergoing ROM were more likely to have wound complications than those who did not.

Conclusion: The modified dorsal approach using subcutaneous windows to access the midfoot joints offers a viable alternative to existing approaches.

FP2

Lisfranc fracture dislocations: percutaneous reduction and fixation using screws

E. Iliopoulos¹, S. Agarwal¹, A. Khaleel¹

¹Ashford & St Peter's Hospital, Trauma & Orthopaedics, Chertsey, United Kingdom

Aim: Anatomical reduction and Stable fixation of Lisfranc injuries is considered the gold standard. There is controversy about how it is best achieved. Some surgeons would advocate routine open anatomical reduction, which as a concept was popular in 1980s but the same anatomical reduction and fixation can be achieved percutaneously. We describe our method of close reduction and percutaneous fixation and present our results.

Materials and methods: 22 patients with a minimum follow up of 12 months were included. We achieved satisfactory anatomical reduction percutaneously in all patients and internal fixation was performed using cannulated screws for medial and middle columns. Functional outcome was evaluated using Foot and Ankle Disability Index (FADI) and components of this score were analysed individually to assess which domain was most affected. Vertical ground reaction forces were measured using a force plate in a walking platform.

Results: The average age at operation was 48 years (17-67). Mean follow up was 20 months (13-60). The average Foot & Ankle Disability Index at final follow up was 79 (66-94). No loss of reduction or metal breakage was noted. Walking on uneven surface, going down stairs, heavy work and pain first thing in the morning were the domains of functional Index that showed poor recovery. None of the patients had pain at rest. Only three patients found it extremely hard to return to recreational activities. None of the patients had problems related to wound.

Gait analysis showed a prolonged push-off ($p=0.22$) and significantly prolonged pre-swing phase ($p=0.015$) of the affected limb.

Conclusions: Percutaneous reduction and fixation technique for Lisfranc injuries provides predictable good functional outcome and gait pattern similar to open techniques with a potentially decreased risk of wound problems.

FP3

Talus fractures: are they as bad as we think they are? A review of 28 cases in a tertiary trauma centre

A. Touzell¹, W. Harries¹, I. Winson¹, A. Pentlow¹

¹North Bristol Trust, Bristol, United Kingdom

Introduction: Talus fractures have traditionally been reported as having poor outcomes with rates of avascular necrosis in excess of 80% in some studies. It was noted by the senior author that this was not his experience in a tertiary institution with many patients having good to excellent outcomes and lower rates of avascular necrosis than anticipated despite high-energy trauma. The aim of this paper is to review all talus fractures that have been fixed internally at our institution to determine whether current surgical techniques have improved traditionally poor outcomes. This could result in improved outlook for patients on initial presentation and improved ability to manage the long-term consequences of the multiply-injured patient.

Method: A review of all lower limb trauma cases from 2012-2015 was made. This yielded 28 talus fractures that had been internally fixed at Southmead hospital.

Patients were contacted using telephone and letters. The AAOS Foot and Ankle Outcome Questionnaire, patient satisfaction surveys and analysis of radiographs were made.

Results: Our preliminary results suggest avascular necrosis rates of less than 10% despite the high energy, sometimes open nature of these injuries. We also report that patients are returning to work and are reasonably satisfied following their injury. Fixation methods varied between cases but generally good outcomes were reported amongst most patients. We summarise the demographics of patients presenting with talus fractures and classify their initial injury according to the Hawkins talus fracture classification.

Conclusion: Our results were surprising. They suggest that modern surgical techniques may be improving outcomes for patients with talus fractures. It was previously thought that these injuries can be career-ending for some patients but we would suggest that there is hope for good outcomes in this patient group.

FP4

The lateral malleolar bony fleck classified by size and pathoanatomy

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Background: This study analyzes position of the peroneal tendons and status of the superior peroneal retinaculum (SPR) whenever a lateral malleolar bony flake fracture occurs.

Methods: Twenty-four patients had a lateral malleolar bony fleck on anteroposterior ankle radiographs, either in isolation or associated with other hindfoot injuries. We studied size of the bony flecks, presence or absence of peroneal tendon dislocation and pathoanatomy on CT scans.

Results: In 11 patients, a small bony fleck lies within the superior peroneal retinaculum and contiguous periosteum, which are stripped off the lateral fibula (Class II lesions). Tendons dislocate into the subperiosteal pouch thus formed, resembling Class I lesions without associated bony avulsion. Treatment for Class II is same as for Class I injuries.

In 8 patients with big bony fleck, tendons dislocate into the fracture site and SPR is intact (Class III lesions). Surgical approach for tendon relocation and bone fixation differs. In particular, the intact attachment of the SPR on the bony fleck must not be incised. The healing process of neglected Class III lesions resembles a groove deepening procedure, representing an attempt to form a stable platform for the dislocated tendons. A neglected Class II lesion resembles a neglected Class I lesion.

In Class IV lesions, observed in 5 patients with 2-part calcaneal fracture/dislocation, SPR remains intact and peroneal tendons are not dislocated. The invariably large fleck results from the displacing lateral calcaneal fragment abutting against the fibula, whereas the dislocating tendons cause the bony avulsions in Classes II and III.

Conclusions: Due to pathoanatomical differences, surgical approach and natural history of neglected lesions differ depending on size of the bony fleck. The SPR must not be incised in case of big Class III flecks. Beware of false negatives when probing the peroneal tendons intra-operatively in Class III and IV lesions.

FP5

Is magnetic resonance imaging (MRI) reliable in the diagnosis of osteochondral lesions (OCL's) in the ankle?

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Background: MRI is the preferred modality for the diagnosis of ankle joint pathology. Musculoskeletal radiologists aim to determine and report both chondral and/or osseous stability/instability of each lesion. The aim of this study was to specifically analyse the reliability of MRI reported findings in predicting the stability of OCL's in symptomatic patients.

Methods: A single centre, single surgeon consecutive series of patients who had undergone an ankle arthroscopy procedure preceded by an MRI scan for symptomatic ankle pathology were included in this retrospective clinical study. All MRI scans were reported by a musculoskeletal radiologist. MRI reports and arthroscopic findings were extracted and analysed. Arthroscopy findings were taken as the gold standard.

Results: Between April 2012 and July 2016, 48 patients who fulfilled the above criteria were included. There were 27 male and 21 female patients, the average age was 43.4 (SD 14.1). The average time interval between MRI scan and arthroscopy was 9 months (2-49 months), 28 patients (58.3%) had a right sided pathology.

There was a significant negative relationship between OCL's reported as stable on MRI to arthroscopic findings, $r=-.31$, $p=0.03$. Of the 21 patients who had OCL's reported as stable on the MRI scan, all had unstable lesions on arthroscopic evaluation (100%). One patient had an unstable OCL reported on the MRI scan and it was also found unstable arthroscopically. In 27 patients, where there was no mention of the stability of the reported OCL on the MRI, 22 patients (81.5%) had unstable lesions and 5 patients (18.5%) had stable lesions on intra-operative arthroscopic findings.

Conclusion: This study demonstrates that MRI has a poor predictive value for the stability of OCL's of the ankle. Therefore we recommend that in the symptomatic patient an arthroscopy is indicated irrespective of MRI findings.

Evidence: retrospective case review, level IV.

FP6

Are ankle dislocations being diagnosed and reduced in a timely manner?

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Introduction: Standard teaching of dislocated ankles was always reduce then x-ray. However the 2016 BOAST guidelines stated "Reduction and splinting should be performed urgently for clinically deformed ankles. Radiographs should be obtained before reduction unless this will cause an unacceptable delay". We aimed to audit our practice against the BOAST guidelines and look at time from attendance to reduction.

Methods: We retrospectively reviewed all case notes of patients admitted via A&E at the Northern General Hospital with a fractured ankle between August 2016 and January 2017. Time of arrival, time to x-ray and time to reduction were recorded in a database for analysis.

Results: 65 patients with acute ankle fractured dislocations were identified from 140 acute fractured ankle referrals to the orthopaedic on-call team. 55 of these had a pre-reduction x-ray. Time from arrival to a radiograph of a reduced ankle in cast was 3hrs 59 minutes for those who had a pre-reduction radiograph compared with 1hr 3 minutes for those who didn't have a pre-reduction radiograph. 12.5% of those with no pre-reduction radiograph required re-manipulation compared with 31% of those who did have a pre-reduction radiograph.

Conclusion: Having a pre-reduction x-ray significantly increases the time until there is radiological evidence of a reduced ankle. There was an associated higher risk of requiring a further manipulation in those who had a pre-reduction radiograph. A larger review is currently being undertaken to better understand the possible reasons for this.

FP7

Assessing the risk factors in the management of diabetic ankle fractures: can rigid-long segment fixation (RISF) improve outcomes

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Diabetes is a poor prognostic indicator after an ankle fracture. Many surgeons avoid operating due to concerns regarding complications. We performed a retrospective analysis of complication rates for acute ankle fractures in diabetics with a control non-diabetic patient treated by all surgeons in our unit and assessed factors for success including long-segment fixation.

Patient records were cross-referenced with departmental databases and a review of all ankle fractures managed in our department was conducted from 2012. All patients subjected to a retrospective-review of their follow-up for at least 6-months. Radiographs were assessed of the ankle before and at completion of treatment being reviewed independently (RA & FR).

We identified the HB1Ac (diabetic-control) and systematic co-morbidities. Fractures were classified into unimalleolar, bi malleolar and trimalleolar and surgery grouped into standard or long-segment-rigid fixation.

Statistical analysis was conducted using absolute/relative risk (RR); numbers needed to treat (NNT) were calculated. We compared a control-group, a diabetic group managed conservatively, and undergoing surgery; comparing the concept of rigid fixation and prolonged immobilisation in isolation or combined.

Further sub-analysis conducted assessing diabetic neuropathy, retinopathy and nephropathy. Ethics approval was granted as per our institutional policy by our governance lead. We identified 154 diabetic ankle fractures, seventy-six had conservative-treatment; 78 had operative fixation of which 23 had rigid-long-segment-fixation.

The diabetic-groups had a higher risk-relative-risk of complication - 3.2 ($P < 0.03$) being linked to systematic complications of diabetes e.g. neuropathy 5.8 ($P < 0.003$); HBA1c 4.6 $P < 0.004$; and neuropathy or retinopathy 6.2 ($P < 0.0003$). Relative-risk reduction of complications occurred following surgery with prolonged immobilization (0.86) and rigid-fixation (0.65). The Number-Needed-to-Treat required to see a benefit from rigid fixation was 7.

Diabetics have a higher risk for complications, however the risk is not as great as previously reported. We provide evidence of rigid-long-segment-fixation with prolonged-immobilization improving-outcomes.

FP8

Do stable Weber B ankle fractures pose an unnecessary load on fracture clinics? A prospective review of 100 patients

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Introduction: The conservative management of stable Weber B fibula fractures remains variable. We thought that the current trend in our institution poses an unnecessary burden on fracture clinics.

Methods: We reviewed patients referred with Weber B ankle fractures over an 18 month period. Our inclusion criteria were non-diabetic adults, with isolated stable Weber B fractures. Fractures were deemed stable if they had no evidence of talar shift on initial radiographs ($< 5\text{mm}$ medial clear space and $< 1\text{mm}$ variation between superior and medial clear spaces). Exclusion criteria were unstable fractures on radiographs, or no local follow-up.

Management was reviewed from case notes and radiographs. Primary outcome was the stability of the fracture by the end of treatment. Secondary measures were duration of treatment, number of follow up appointments and radiographs, and complications.

Results: 182 cases were reviewed. 82 were excluded leaving 100 patients for follow-up. Mean age was 53 (18-99). Mean number of outpatient appointments was 2.63 (1-6), follow up radiographs was 2.34 (0-6). 74 were treated in a walking boot and 15 in a walking cast for a mean of 6 weeks (4-9) and allowed to full weight-bear. 10 were kept non weight-bearing in a cast for 6 weeks and 1 was partially weight-bearing. Mean follow-up time was 7.3 weeks (1-30).

No fractures displaced and one patient developed an ulcer from a cast.

Conclusion: Our study suggests that in isolated Weber B fractures, with no radiographic instability on initial presentation, further displacement is unlikely. We propose that these injuries can be treated safely in a removable boot with full weight-bearing for 6 weeks then clinical and radiologic assessment if required. Casting or restricted weight-bearing does not confer any additional advantage.

We question the necessity and rationale behind weekly clinical and radiological follow-up for such cases.

FP9

Low risk of delayed talar shift with functional management of the isolated Weber B fracture - results of a new treatment protocol.

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Introduction: Isolated Weber B fractures usually heal uneventfully but traditionally require regular review due to the possibility of medial ligament injury allowing displacement. Following recent studies suggesting delayed talar shift is uncommon we introduced a functional treatment protocol and present the early results.

Methods: 141 consecutive patients presenting acutely with Weber B fractures without talar shift between January and December 2015 were included. Patients were splinted in a removable boot and allowed to weight bear. ED notes and radiographs were reviewed by an Orthopaedic consultant. Patients without signs of medial injury were discharged with an information leaflet and advice. If signs of medial ligament injury were noted or the medial findings were not documented the patient was reviewed in fracture clinic at 4 weeks post-injury. If talar shift developed the patient was to be converted to operative treatment. Olerud and Molander scores were collected between 6 and 12 months post-injury..

Results: 65 of 89 patients with signs of medial ligament injury or no documented medial findings attended fracture clinic. Of 51 patients without signs of medial ligament injury 23 were discharged according to protocol and 28 patients attended fracture clinic. One discharged patient re-accessed care. Of 93 patients reviewed in the fracture clinic none developed delayed talar shift. One underwent delayed ORIF for ongoing fibula discomfort and the remainder continued with non-operative treatment. 99 (70%) patients provided outcome scores. The mean score at a minimum of 6 months follow-up was 87 and the median score was 100. No significant difference was found between treatment arms. The scores were comparable to those in the published literature.

Conclusion: We conclude the risk of delayed talar shift is low and satisfactory outcomes can be safely achieved with our functional protocol. Additional tests/imaging to establish the integrity of the medial ligament may be unnecessary.

FP10

The development of a test for fibular reduction after syndesmosis injury - a cadaveric study

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Introduction: Injury to the syndesmosis is not always clearly demonstrated on radiographs and different tests have been described to assess for injury. In the presence of a significant injury to the syndesmosis, surgical fixation is often indicated and various fixation methods have been described. If the result of surgery is any mal-reduction of the fibula, this may result in ongoing ankle pain. Assessing how well the fibula has been reduced intra-operatively is currently limited to image intensifier views. We have previously developed a simple assessment, which has been shown to give accurate intra-operative demonstration of an injury to the syndesmosis. Our objective was to ascertain if the same test could demonstrate any malreduction of the fibular after repair of a syndesmosis injury.

Methods: Seven fresh frozen cadavers had complete syndesmosis disruption performed before fixation using a well-recognised technique with a single 3.5 mm small fragment screw. Purposeful malreduction was performed in three ankles and standard reduction in the remaining four. 2-5mls of contrast medium was then injected into the ankle joint.

Results: When there had been a malreduction, an obvious 'blush' of dye leaked superiorly into the surrounding soft tissues, whereas a normal ankle arthrogram was shown when the fibular had been anatomically reduced into the incisura and well fixed.

Conclusion: This cadaveric study showed the test to be an easy and reliable adjunct to assess for acute malreduction of a syndesmosis injury.

FP11

Posterior malleolar ankle fractures - an effort in improving outcomes

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Background: There is an increasing acceptance that the clinical outcomes following posterior malleolar fractures are less than satisfactory. In our previous multicenter study (Powell, BOFAS 2016) we showed that the Olerud-Molander Ankle Score (OMAS) was 79 for unimalleolar fractures and 65 for bi malleolar fractures, however it dropped significantly to 54 in trimalleolar fractures. In creating a treatment guiding classification, we report our results in a system change in management of posterior malleolar fractures in our unit.

Method: All fractures were classified according to Mason and Molloy classification (BOFAS 2015, FAI 2017) based on CT scans obtained pre-operatively. This dictated the treatment algorithm. Type 1 fractures underwent syndesmotic fixation. Type 2A fractures underwent ORIF through a posterolateral incision, and type 2B and 3 fractures underwent ORIF through a posteromedial incision. The patient remained NWB for 6 weeks postoperative. Data was collected from December 2014 to July 2017.

Results: Patient related outcome measures were obtained in 50 patients with at least 6 month follow up (mean 18 months). According to Mason and Molloy classification there were 17 type 1, 12 type 2A, 10 type 2B and 11 type 3. The mean OMAS for type 1 was 75.9 (Range 30-100, SD 18.4), type 2A 75.0 (range 35-100, SD 21.3), type 2B 74.0 (range 55-100, SD 13.7) and type 3 70.5 (Range 35-100, SD 17.1). An increase in OMAS of 4 is clinically significant.

Conclusion: We have been able demonstrate an improvement in OMAS for all posterior malleolar fractures with the treatment algorithm applied using the Mason and Molloy classification. Compared to our previous study we have successfully increased our OMAS scores to what would be expected from unimalleolar fractures. Mason and Molloy type 3 fractures have marginally poorer outcomes, which correlates with a more significant injury, however this does not reach statistical significance.

FREE PAPERS 2

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FP12

Beware the hallucal interphalangeal joint sesamoid in first ray arthrodesis

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Introduction: Orthopaedic and trauma surgeons not infrequently encounter the hallucal interphalangeal joint sesamoid (HIPJS) in irreducible traumatic dislocations. However, patients with the classic triad of plantar keratoma beneath a hyperextended interphalangeal (IP) joint associated with stiffness of the first metatarsophalangeal joint tend to present to podiatrists rather than orthopaedic surgeons.

Methods: We present our experience with the HIPJS following first metatarsophalangeal joint (MTP1) arthrodesis in 18 feet of 16 women, aged 42 to 70 years old. Where CT scan was available, volume of the HIPJS was determined using Vitrea Software.

Results: Two groups of patients were identified. Group 1 consisted of 12 feet in 11 women, who developed a painful keratoma beneath a gradually hyperextending IP joint of the great toe, at varying intervals (range 6 to 75 months) following MTP1 arthrodesis.

Group 2 comprised 6 feet in 5 women who had undergone MTP1 arthrodesis but reported no symptoms in relation to an undetected and/or recognized, but unexcised HIPJS (range 15 to 97 months). We found no difference in average size of the HIPJS between Groups 1 and 2 (190.42 mm³ and 196.47 mm³, respectively).

Clinically, all toes had been fused in good position and no difference existed in the post-operative angle subtended by the proximal phalanx of the arthrodesed big toe with the first metatarsal between the 2 groups.

A good outcome followed removal of metalwork and excision of the HIPJS in the symptomatic patients.

Conclusion: Think of a HIPJS in the patient who presents with a painful plantar keratoma beneath a hyperextended interphalangeal joint following MTP1 arthrodesis. Do not rush into a Moberg osteotomy as this will only push the big toe higher against the toe-box. Consider prophylactic excision of a HIPJS prior to MTP1 arthrodesis.

FP13

'The Myerson 'Rolltop' Interpositional Arthroplasty a Novel Surgical Technique for Severe Freiberg's Disease: Medium-term functional outcomes, return to fashion footwear and sports'

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Freiberg's Infracture; osteonecrosis of the metatarsal head, is the fourth most common intra-articular osteonecrosis in the body. Surgical intervention is usually reserved for late stage of the disease process (III-V) or failure of conservative management. We evaluated the outcomes of patients treated with primary Interpositional Arthroplasty technique using periosteum and fat for adequate surfacing and as a spacer for Freiberg's Disease.

Twenty-three cases (21 patients) were performed from February 2009 - March 2016 (18 women, 5 men). Mean age at surgery was 51.1 years (range 19 - 70.5 years) with 91% affecting the second metatarsal. Twenty-one cases were primary and two cases were revision. Five cases were stage III, 10 were in stage IV and 8 were stage V. All patients underwent Interpositional Arthroplasty using periosteum and fat graft from affected metatarsal inserted as joint spacer and secured with sutures. Patients were followed up by postal questionnaires using two validated questionnaires; MOXFQ and AOFAS. Mean follow-up was 3.7 years (0.6 - 7.6 years). Paired two-tailed student t tests were used to assess clinical significance.

The left and right foot was affected in 12 and 11 cases respectively. There were no postoperative infections, non-unions or transfer metatarsalgia. Surgery allowed 8 patients to wear normal footwear, 9 wearing fashion shoes, 5 wearing dress shoes and 5 patients returned to sporting activities. Mean pre-operative and post-operative VAS pain scores were 6.7 (range 4-10) and 3.2 (range 0-10) ($p < 0.05$). Mean peri-operative AOFAS scores were 43.8 (range 14-73) and 71.3 (range 10-100) ($p < 0.05$). Mean peri-operative MOXFQ scores were 62.9 (range 23-89) and 31.8 (range 0-98) ($p < 0.05$).

We recommend our novel Interpositional Arthroplasty using periosteum and fat spacer for late stage Freiberg's disease as it can result in significant improvement in pain, prevents donor site morbidity and produces significant functional improvement and patient satisfaction.

FP14

New technique to treat severe crossover toe deformity

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Introduction: Crossover and claw toe deformity has traditionally been a very difficult condition to manage surgically, with high recurrence rates. Multiple methods have been used to treat this condition. Plantar plate "repair" has recently been advocated, with sutures used to repair an assumed tear. Based on clinical experience and anatomical studies (Deland et al. 1995), we believe the main pathology is a distal migration of the plantar plate complex resulting in exposure of the metatarsal to the thin posterior synovial attachment of the plate. The downward forces on the metatarsal head results in herniation of the head inferiorly. Accordingly we have developed a technique using full cuff release of the plantar plate complex that includes complete release of the collateral ligaments, repositioning the plantar plate anatomically and reinforcing the hernial defect with a synthetic mesh graft.

Methods: 12 cases of severe crossover toe deformity have undergone plantar plate reconstruction using synthetic mesh graft in addition to other bony procedures (e.g. Weil's osteotomy, PIPJ fusion) since 2015 operated upon by the lead author. We collated data regarding patient satisfaction using Coughlin's Score (Coughlin 1991). We have also evaluated the sustainability of correction and any complications.

Results: All patients reported "excellent" outcomes using Coughlin's score, with no cases of recurrence of any significance or complications, and a mean time to follow up of 180 days (range 23-653).

Conclusions: Our understanding of the pathology of this condition is somewhat different from the conventional wisdom. Our technique of using a synthetic mesh graft to reconstruct the plantar plate complex shows promising results in terms of safety and decreased recurrence rate compared to traditional techniques. Further long term prospective results are required to confirm this pilot data.

FP15

Unstable metatarsal-phalangeal joints (MTPJ): what went wrong? A description of a novel technique to stabilize it

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MTPJ instability is very common yet there is no consensus of best surgical technique to repair it. The current techniques range from extensive release, K-wire fixation or plantar plate repair, which requires release of remaining intact plantar plate and all collaterals. Such varieties reflect a controversy regarding its aetiology. The aim of this study was to assess how much each structure contributes towards the stability of MTPJ and describing a simple technique designed by the senior author that can anatomically reconstruct all contributing structures to the pathology.

Eleven cadaveric toes in two groups (five in group 1 and six in group 2) were included. Dorsal displacement (drawer test) was used to measure instability in an intact MTPJ followed by two different series of sequential sectioning of each part of collateral ligament (PCL and ACL) and part or complete plantar plate.

Group 1 result showed that after incising PCL dorsal displacement was 0.51mm, PCL+ACL was 0.8mm and PCL+ACL+50% plantar plate was 2.39mm. Group 2 results showed that after incising 50% plantar plate dorsal displacement was 0.48mm, after full plantar plate 0.62mm, plantar plate +PCL was 0.74mm and plantar plate +PCL+ACL was 1.06mm.

To produce significant instability, both collaterals on one side with combination of 50% plantar plate tear was needed. An isolated 50% tear of plantar plate caused less displacement of MTPJ compared to isolated collaterals. PCL contributed more towards the stability of MTPJ when the plantar plate was intact. Whereas, ACL contributed more stability when plantar plate was sectioned. The current practice of releasing the collaterals to gain access for repairing plantar plate by indirect method should be re-evaluated. A new technique of proximal tenotomy of extensor digitorum brevis tendon looped around the transverse ligament and attached to the neck of metatarsal reconstructs both structures (plantar plate and collaterals).

FP16

Increased recurrence in Scarf osteotomy for mild & moderate hallux valgus with Meary's line disruption

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This paper tests the null hypothesis that there is no difference in recurrence for mild and moderate hallux valgus treated with Scarf osteotomy in the presence of a disrupted Meary's line compared to an intact line.

At a minimum of 3 months follow up we retrospectively analysed radiographs, theatre and clinic notes of 74 consecutive patients treated with Scarf osteotomy for mild and moderate hallux valgus at a single centre. The patients were divided into Group A (n=30) - patients who on pre-operative weight bearing radiographs had a disrupted Meary's line, and Group B (n=44) - those with a normal Meary's line on pre-operative weight bearing radiographs.

Our results demonstrate a statistically significant higher recurrence in group A compared to Group B with an odds ratio of 5.2 p = 0.006 [95% CI 1.6-17]. The association between a disrupted Meary's line and increased risk of recurrence for Scarf osteotomy remains valid and strengthened to an odds ratio of 7.1 p = 0.015 [95% CI 1.46 -34.4] when adjusted for confounding variables of age, sex and pre-operative IMA. On this basis we reject the Null hypothesis.

In group A two out of 30 patients required revision surgery whilst none of the 44 patients in group B needed revision. In Group A the degree of IMA correction achieved equalled 8.1 degrees with a pre and post IMA of 16.0 and 7.9 degrees respectively. For Group B the degree of correction was 8.0 degrees with a pre and post IMA of 14.3 and 6.3 degrees respectively. Eight complications were reported in Group A and 9 in Group B.

Our results demonstrate a statistically significant increased risk of recurrence when scarf osteotomy is performed for mild and moderate hallux valgus in the presence of a disrupted Meary's line.

FP17

Current review of midterm outcomes of synthetic cartilage implant hemiarthroplasty of the first metatarsophalangeal joint in advanced hallux rigidus

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Introduction: A randomized clinical trial of first metatarsophalangeal (MTP) joint hemiarthroplasty with a synthetic cartilage implant demonstrated equivalent pain, function and safety outcomes to first MTP joint arthrodesis at 2 years. The implant cohort continues to be followed under an extension of the original study and we report on prospectively determined 5+ year outcomes for subjects assessed to date.

Methods: Patients treated with hemiarthroplasty implant as part of the previously mentioned trial are eligible for enrollment in the extended study (n=135). At the time of this report, 57 patients had reached the 5+ years postoperative time point, of which 5 were lost to follow-up. The remaining 52 patients with mean age of 58.5 (range, 38.0-72.0) underwent physical examination, radiographic evaluation, assessment of implant survivorship and collection of patient completed VAS pain, and Foot and Ankle Ability Measure (FAAM) sports subscale and activities of daily living (ADL) subscale scores. Mean follow-up is 5.8 (range, 4.8-7.4) years.

Results: Patient reported pain and function outcome measures showed clinically and statistically meaningful improvements over baseline at 5.8 years. Mean VAS pain scores decreased 57.9 points (86% pain reduction). The mean FAAM Sports and ADL subscale scores increased from baseline 47.9 points (126%) and 32.7 points (55%) respectively. Patients maintained first MTP joint motion with mean active peak MTP dorsiflexion of 25.9° (range, 0-54°) which was a 3° improvement from baseline. Implant survivorship at 5.8 years was 92%; four were converted to fusion because of persistent pain at mean time 42 months post-operation (range, 26-52 months). These results are equivalent to the outcomes reported at 2 years follow-up.¹

Conclusion: The synthetic cartilage hemiarthroplasty implant continues to demonstrate safety and efficacy for the treatment of advanced first MTP joint osteoarthritis with mid-term evidence of a therapeutic effect and an acceptable safety profile at 5.8 years.

FP18

Silastic 1st metatarsal phalangeal joint replacement for the treatment of end stage hallux rigidus: analysis of a consecutive series of 108

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Introduction: Arthroplasty for treatment of end stage hallux rigidus is controversial. Arthrodesis remains the gold-standard, but this procedure is not without complications, with up to 10% non-union, 14% re-operation and 10% transfer metatarsalgia rates reported.

The aim of this study was to analyse the outcome of the double-stemmed silastic implant (Wright-Medical) for end stage hallux rigidus.

Method: We conducted a retrospective review of a consecutive series of 108 silastic 1st MTPJ implanted in our Unit (January 2005 - December 2016). Data was collected from our research databases, patient notes, PACS and PROMS. No patient was lost to follow-up.

Results: Average age was 60.1 years (range 42-84 years; 104F; 4M). Results show a 98.1% survivorship at an average 5.1 years follow up (range 6 months-12 years). Average pre- and post-operative MOXFQ scores were 78.8/100 and 11.0/100 respectively and VAS scores improved from 7/10 to 1.3/10, with an average post-operative range of movement of 26.3°. Overall satisfaction rate was 90.6%.

2 patients (1.9%) required revision; 1 for early infection (2 months) and 1 for stem breakage (10 years). There were 15 complications (13.9%) in the group, 5 lateral metatarsalgia, 7 patients stiffness and ongoing pain in the index joint occurred in 2.7%. There was a 20% incidence of radiological cyst formation or demarcation, but this was neither progressive, symptomatic, nor affected clinical outcome.

Conclusions: The authors believe these results are superior to results of other published implants for hallux rigidus (BioPro and Cartiva). Additionally, these results do not confirm progressive osteolysis, previously reported for this implant in other series, as being a mechanism of failure. Finally, these results suggest the double stemmed silastic 1st MTPJ replacement provides a reliable alternative, with at least comparable outcomes, to that of fusion, for the treatment of end stage hallux rigidus.

FP19

Association between patient factors and outcome of synthetic cartilage hemiarthroplasty (Cartiva) versus first metatarsophalangeal joint arthrodesis in advanced hallux rigidus

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Introduction: Studies have compared outcomes of first metatarsophalangeal joint (MTPJ1) implant hemiarthroplasty and arthrodesis, but there is a paucity of data on the influence of patient factors on outcomes. We evaluated data from a prospective, RCT of MTPJ1 implant hemiarthroplasty (Cartiva) and arthrodesis to determine the association between patient factors and clinical outcomes.

Methods: Patients ≥18 years with Coughlin hallux rigidus grade 2, 3, or 4 were treated with implant MTPJ1 hemiarthroplasty or arthrodesis. Pain VAS, Foot and Ankle Ability Measure (FAAM) Sports and ADL, and SF-36 PF scores were obtained preoperatively, and at 2, 6, 12, 24, 52 and 104 weeks postoperatively. Final outcomes, MTPJ1 active peak dorsiflexion, secondary procedures, radiographs and safety parameters were evaluated for 129 implant hemiarthroplasties and 47 arthrodeses. Composite primary endpoint criteria for clinical success included pain reduction ≥30%, maintenance/improvement in function, and no radiographic complications or secondary surgical intervention at 24 months. Predictor variables included: grade; gender; age; BMI; symptom duration; prior MTPJ1 surgery; preoperative hallux valgus angle, ROM, and pain. Two-sided Fisher's Exact test was used (p < 0.05).

Results: Patient demographics and baseline outcome measures were similar. Success rates between implant MTPJ1 hemiarthroplasty and arthrodesis were similar when stratified by hallux rigidus grade, gender, age, BMI, symptom duration, prior MTPJ1 surgery status, and preoperative VAS pain, hallux valgus and ROM (p > 0.05).

Conclusion: Synthetic cartilage implant hemiarthroplasty (Cartiva) is an appropriate treatment for patients with hallux rigidus grade 2, 3 or 4 and is a reasonable choice in hallux rigidus in patients with < 20 degrees HVA, with a high degree of preoperative stiffness, irrespective of gender, age, BMI, hallux rigidus grade, preoperative pain, or duration of symptoms, in contrast to what might have been expected.

FREE PAPERS 3

Friday 3rd November 2017

FP20

Differential gene expression in ankle cartilage chondrocytes compared to knee: might this explain the difference in prevalence of osteoarthritis in these joints and identify a potential treatment target?

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Introduction: The prevalence of symptomatic osteoarthritis (OA) in the knee is 11-19% compared to 3.4-4.4% in the ankle. In addition to this, 70% of ankle arthritis is post-traumatic while the vast majority of knee arthritis is primary OA. Several reports have previously implicated biochemical differences in extracellular matrix composition between these joint cartilages; however, it is unknown whether there is an inherent difference in their transcriptome and how this might affect their respective functionality under load, inflammatory environment etc. Therefore, we have analysed the transcriptome of ankle and knee cartilage chondrocytes to determine whether this could account for the lower prevalence and altered aetiology of ankle OA.

Methods: Human full-depth articular cartilage was taken from the talar domes (n=5) and the femoral condyles (n=5) following surgical amputation. RNA was extracted and next generation sequencing (NGS) performed using the NextSeq@500 system. Statistical analysis was performed to identify differentially regulated genes (p adj < 0.05). Data was analysed using Integrated Pathway Analysis software and genes of interest validated by quantitative PCR.

Results: 809 genes were differentially expressed in this NGS study: 781 genes were significantly up-regulated and 27 significantly down-regulated in ankle cartilage with respect to knee. Preliminary analysis has identified several pathways which are differentially regulated including 'inflammation mediated by cytokines', 'glutamate receptor pathway', 'heterotrimeric-G-protein signalling pathways', 'WNT signalling' and 'integrin signalling'.

Discussion: This is the first report identifying genes that are differentially expressed in ankle cartilage compared to the knee. Validation is currently being performed to ascertain the importance of these gene changes and correlation with their protein expression in the different joints. An understanding of the inherent biological differences in the cartilage between these two joints will provide invaluable insight into why the ankle is relatively spared from primary OA and the majority of ankle arthritis occurs following trauma.

FP21

Augmented debridement in implant infection with absorbable, gentamycin loaded calcium sulfate/hydroxyapatite biocomposite

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Aim: To evaluate the clinical outcome of a new absorbable, gentamycin loaded calcium sulfate/hydroxyapatite biocomposite (CERAMENTTM/G) as cavity filler after debridement and removal of infected metalwork in chronic osteomyelitis.

Methods: We report the retrospective study of prospectively collected data from 36 patients with chronic osteomyelitis from implant infection. Treatment included a single stage protocol with removal of the metalwork, debridement augmented with application of CERAMENTTM/G, stabilization, culture-specific antibiotics and primary skin closure or flap. The biocomposite was used for dead space filling after resection of Cierny-Mader (C-M) stage III and IV chronic osteomyelitis. Data were collected on patient age, comorbidities, operation details, microbiology, postoperative complications and type of fixation or plastic surgery. Primary measure of outcome was recurrence rate.

Results: According to the C-M classification 22 patients (63%) were defined as Type III and 13 (37%) as Type IV. A total of 26 (72%) patients were Class B hosts. In 9 cases (25%), there was an infected non-union and 1 patient had septic arthritis. Mean age was 52 years (range 22 to 81). Patients were followed for a mean of 20 months (range 6 to 36). Infection was eradicated in 32 patients. There were three (8.3%) recurrences (two cases of osteomyelitis and one of soft tissue/flap infection). Two of them were successfully managed with repeat surgery (one Class B and one Class A host) and one (Class B host) with suppressive antibiotic therapy as per patient's choice. In one infected nonunion the infection was eradicated but the nonunion persisted. Thirteen patients (36.6%) had a local or free fascio-cutaneous flap. Staphylococci (50%) and Enterococci (15%) were the most common microorganisms. Pseudomonas aeruginosa was more common in polymicrobial infection usually with Staphylococcus aureus.

Conclusions: A multidisciplinary approach including augmented debridement with CERAMENTTM/G is effective for treatment of chronic osteomyelitis with infected metalwork.

FP22

The results of arthroscopic and open FHL tendon transfers

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Introduction: Flexor Hallucis Longus (FHL) tendon transfer is a well-recognised salvage operation for irreparable tendon Achilles (TA) ruptures and intractable Achilles tenonopathy. Several case series describes the technique and results of arthroscopic FHL tendon transfers. We present a comparative case series of open and arthroscopic FHL tendon transfers from Southmead Hospital, Bristol, UK.

Methods: For the arthroscopic FHL transfers in most cases the patients were positioned semi prone with a tourniquet. A 2 or 3 posterior portal technique was used and the tendon was secured using an RCI screw. The rehabilitation was similar in both groups with 2 weeks in an equinus backslab followed by gradual dorsiflexion in a boot over the following 6 weeks. Anticoagulation with oral aspirin for 6 weeks was used. A retrospective case note review was performed.

Results: There were 12 arthroscopic (8 males, 4 female) and 16 open procedures (9 male, 7 female). Both had a mean age of 56. 1 arthroscopic FHL was lost to follow up. There were no concomitant procedures in the arthroscopic group. In the open group the TA was repaired in 7 cases (3 of these involved z-shortening). There was 1 plantaris interposition, 1 V-Y advancement and 1 gastrocnemius advancement. Degenerate tendon was excised in 1 severe re-rupture of a calcified tendinopathic achilles. There was no difference in tourniquet time between the groups (arthroscopic 69mins vs open 64 mins, p=0.64). There were no complications in the arthroscopic group. In the open group there was 1 superficial wound infection, 1 nerve injury & 1 delayed DVT at 3 months.

Conclusion: Arthroscopic FHL transfer is a safe and effective surgical option when no other achilles procedures are required. The soft tissue insult is minimal, making it a good option for patients with poor soft tissues or neurovascular compromise.

FP23

The Scottish Arthroplasty Project: outcomes of 601 total ankle replacements over a 20 year period

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Introduction: Total ankle replacement (TAR) is performed for post-traumatic arthritis, inflammatory arthropathy, osteoarthritis and a range of other indications. The Scottish Arthroplasty Project (SAP) began collection of data on TAR in 1997. In this study, using data from the SAP, we examined the annual incidence of TAR between 1997 and 2015. Implant survivorship and the rate of general and joint-specific complications were also analysed.

Methods: We identified 601 patients from a national arthroplasty database who had undergone total ankle replacement between 1997 and 2015 and followed up these patients to a maximum of 20 years. We used established methods of linkage with national hospital episode statistics, population and mortality data to examine the incidence of complications and implant survivorship.

Results: There were 601 primary TAR procedures with an overall incidence of 0.6 per 105 population per year. Indications for ankle replacement included: posttraumatic arthritis/osteoarthritis 63%; inflammatory arthropathy 25% and other diagnoses including: haemophilia; haemochromatosis; psoriatic arthritis and avascular necrosis in 12%. The peak incidence was in the 6th decade. There was a female to male ratio of 1:1. The incidence of TAR increased over the study period (r= 0.9, p=< 0.0001). This may be due to a broadening range of indications and patient selection criteria, in turn due to increased surgeon experience with ankle replacement and the evolution of implant design. The overall 10 year survivorship was 90%. The rate of general and implant specific complications was comparable to published literature.

Conclusion: This study examines a large number of ankle replacements from an established arthroplasty dataset. The prevalence of TAR has increased over 19 years. Overall survivorship was similar to other published registry data on ankle replacements. Further work will look at the effect of surgeon volume on rate of complications, reoperation and survivorship.

FP24

What is the effect of BMI on total ankle replacement and the effect of ankle replacement on BMI?

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The effect of BMI on patient-reported outcomes following total ankle replacement (TAR) is uncertain and the change in BMI experienced by these patients in the 5 years following surgery has not been studied. We report a series of 106 patients with complete 5-year data on BMI and patient-reported outcome scores.

Patients undergoing TAR between 2006 and 2009, took part in the hospital joint registry, which provides routine clinical audit of patient progress following total joint arthroplasty; therefore, ethics committee approval was not required for this study. Data on BMI, Foot and Ankle Score (FAOS) and SF-36 score were collected preoperatively and annually postoperatively.

Patients who were obese (BMI >30) had lower FAOS scores pre-operatively and at 5 years, however this did not reach significance. Both obese ($p = 0.0004$) and non-obese ($p < 0.0001$) patients demonstrated a significant improvement in FAOS score from baseline to 5 years. This improvement was more marked for the non-obese patients. No significant differences were seen for SF36 scores between obese and non-obese patients either at baseline or 5 years. There was a trend for improved score in both groups.

Mean pre-operative BMI was 28.49. Mean post-operative BMI was 28.33. The mean difference between pre- and post-operative BMI was -0.15, which was not statistically significant ($p=0.55$). There were no significant differences in revisions in the obese (2) and non-obese (1 and one awaited) groups at 5 years.

This data supports use of TAR in the obese population, as significant increases in mean FAOS score were seen in this group at 5 years. Obesity did not have a significant influence on patients' overall health perceptions, measured by the SF36 and a trend for improvement was seen in both obese and non-obese patients. TAR cannot be relied upon to result in significant post-operative weight-loss without further interventions.

FP25

Total ankle replacement: 6 year survivorship of 118 consecutive Zenith Ankle replacements from a non-designer centre

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Introduction: Traditional treatment for end-stage ankle arthritis has been ankle arthrodesis, however ankle arthroplasty is becoming an accepted alternative.

The Zenith Ankle (Corin, UK) is 3rd generation implant with a mobile bearing design. In the NJR 2016 report, the Zenith was the commonest ankle prosthesis implanted in the UK. However, compared to other ankle implants, there's little published data on its performance and survival. The aim of this study was to analyse outcome in a consecutive series from a non-designer centre.

Method: We conducted a retrospective review of a consecutive series of 118 Zenith Ankle replacements implanted in our Unit (December 2010 to May 2016). Data was collected from our National Joint Registry entries, research databases, patient notes, PACS and PROMS.

Results: Average age was 68.2 years (range 46-86 years; 75M:43F; 97 Osteoarthritis, 20 inflammatory arthritis, 1 haemophilia). Results show a 95.8% survivorship at average 3.5 years follow up (range 0.6-6.3 years). 5 patients (4.2%) required revision. Average pre- and post-op MOXFQ scores were 85.0/100 and 32/100 respectively with improvements in VAS from 7.0/10 to 3.6/10, with an average range of movement of 20.4 degrees. Overall satisfaction rate was 89%.

There were 65 complications in 55 patients, but only 7.7% of these led to detrimental effects on the implant. The commonest were malleolar fracture (14.4%), wound problems (13.6%) and superficial infection (12.7%), medial gutter pain (10.2%). There were no cases of deep infection. Five patients required revision (all were revised to revision arthroplasty), for component loosening, or pain and stiffness.

Conclusions: This is largest non-designer centre series examining the outcomes of the Zenith implant. Survival figures for this implant are comparable to NJR averages (6.8% revision at 5 years), with high levels of patient functional outcome and satisfaction. The data highlights the risks associated with this procedure.

POSTERS

ABSTRACT SUMMARY

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

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

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

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

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

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

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Speedbridge re-attachment of the Achilles tendon for insertional tendinopathy

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

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

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

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Needle placement in foot compartment pressure monitoring: a cadaveric study

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

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

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

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P14

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

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P15

Regional anesthesia for foot and ankle surgery outcomes & patient satisfaction

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BOEAS

POSTERS
ABSTRACT DETAILED

P1

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

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

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

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

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

P2

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

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

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

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

Conclusion: By recognising and addressing the need to improve the quality of ankle fracture fixation we have made significant improvements. Initial intradepartmental education was not successful, even with constant consultant presence in theatre. The results of the second audit brought about system changes within the department, including the appointment of a foot and ankle trauma lead, dedicated foot and ankle trauma clinics and operating lists together with the development of treatment algorithms for complex ankle fractures.

Education alone, without system change, is not successful in achieving improved outcomes. Our combined approach of education and system change led to a reduction of mal-reduction from 33% to 2.4%.

P3

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

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

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

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

We defined a moderate deformity as an IMA greater than 130 (14-20) or an HVA of less than 400 (16-40) and a severe deformity as an IMA of greater than 200 or an HVA greater than 400.

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

Pre-op HVA was moderate in 114 (30.30, range 16-40) and severe in 28 (47.00, range 41-70.7).

Of these, IMA was moderate in 62 (160, range 14-20) and severe in 1 (22.20).

The mean post-operative HVA was 9.50 (range 0-23) for the correction of moderate hallux valgus and 15.50 (1-35) for severe hallux valgus. The mean post-operative IMA for the correction of moderate hallux valgus was 6.90 (3-13).

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

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

P4

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

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

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

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

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

P5

Speedbridge re-attachment of the Achilles tendon for insertional tendinopathy

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

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

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

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

P6

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

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

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

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

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

P7

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

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

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

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

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

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

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

P8

Needle placement in foot compartment pressure monitoring: a cadaveric study

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

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

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

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

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

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

P9

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

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

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

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

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

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

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

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

Follow up 6 months - 24 months.

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

P10

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

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

Methods: Twelve cadaveric specimens were used. Talar shift was measured following: 1- no ligaments cut; 2- entire deltoid ligament division; 3- group 1 (5 specimens) PITFL cut whilst group 2 (7 specimens) AITFL cut; 4- group 1 had AITFL divided whilst group 2 had the PITFL cut. Groups were compared using the unpaired Student's t-test.

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

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

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

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

P11

Arthroscopic ATFL ligament reinforcement: a case series

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

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

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

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

P12

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

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

Materials and methods: Six girls aged between 7 to 10 years at the time of injury presented with recurrent ankle instability and pain. All had been treated with a below knee plaster cast for four weeks, followed by physiotherapy for proprioception exercises but had recalcitrant symptoms.

Sequential radiographs showed a small avulsion fracture of the lateral malleolus epiphysis, which remained ununited in all cases.

When there was no improvement with an ultrasound guided anterolateral ankle injection, they underwent surgical exploration with a lateral approach. Intra operatively ankle instability was confirmed by comparing both sides with an Anterior Drawer Test. At surgery, the bony fragment was found to be attached to the ATFL in all cases. The fragment was excised and the ligament was reattached to the tip of the fibula epiphysis with resorbable suture anchors. A modified Brostrom technique was used. Post operatively, a below knee cast for applied for 6 weeks followed by physiotherapy.

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

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

P13

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

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

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

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

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

P14

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

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

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

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

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

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

P15

Regional anesthesia for foot and ankle surgery outcomes & patient satisfaction

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

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

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

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

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Day 1 Wednesday 1st November

08.00-08.50	Registration and coffee
08.50-09.00	Welcome to BOFAS Sheffield 2017 Chris Blundell
09.00-10.30	Tendinopathies Chairs: Callum Clark, Howard Davies
09.00-09.20	Overview - what are they? Mike Butler
09.20-09.30	Basic science - the collagen / tendon / paratenon and cells Mike Carmont
09.30-09.40	Imaging Tendinopathies Nik Kotnis
09.40-09.50	Stem cells in tendinopathies Andy Goldberg
09.50-10.05	Non operative management Jonathan Houghton
10.05-10.15	Operative management Lew Schon
10.15-10.25	What not to do Matt Solan
10.25-10.35	Discussion
10.35-11.00	Coffee
11.00-12.35	Free paper session 1 Chairs: Roland Russell, Robert Clayton
12.35-13.00	KEY NOTE LECTURE 1 Patient Reported Outcomes: Are they living up to their potential? Judy Baumhauer
13.00-13.45	Lunch
13.45-15.15	What's on The Horizon Chairs: Hiro Tanaka, Carolyn Chadwick
13.45-14.05	Advances in rehabilitation in high performance individuals Jonathan Houghton
14.05-14.20	Cool Surgical Innovations in Foot and Ankle and the Science that Supports Their Use Judy Baumhauer
14.20-14.35	What's new in Industry Adam Hill-Maclaren
14.35-14.50	Orthopaedic microbiology - is it all Black Magic? Rob Townsend - Microbiologist
14.50-15.05	3D Modelling - Where do we go from here? Peter Metherall
15.05-15.15	Questions
15.15-15.45	Coffee
15.45-17.15	When the going gets tough... Chairs: Chris Blundell, Kartik Hariharan
15.45-15.55	Early years as consultant - GIRFT Anna Chapman
15.55-16.05	Assessing Trainees James Davis
16.05-16.25	What about equality? Janardhan Rao
16.25-16.45	How to get better at what you do... building teams and doing it right Jamie Buchanan
16.45-17.05	'Mind your business' - managing stress in surgical practice Uttam Shiralkar
17.05-17.15	Discussion
17.15-18.30	Poster viewing/reception Drinks in Ballroom
22.00-01.00	ToeJam Memorial Hall

Day 2 Thursday 2nd November

09.00-12.05	AHP meeting - Memorial Hall Chairs: Jitendra Mangwani, Tim Williams
09.00-10.30	Difficult cases - Oval Hall Chairs: Anthony Sakellariou, Rajesh Kakwani
09.00-12.00	Workshops - Mercure St Pauls Hotel (please see page 11 For details)
12.00-12.30	Lunch for all (Ballroom)
12.40-14.30	AHP Meeting - Memorial Hall Chairs: Prof. Judy Baumhauer, Sylvia Wojciechowski, Tobias Bremer, Noelene Davey
12.40-14.30	BOFAS Fellowship Forum - City Suite A, Lower Ground Floor, Mercure St Pauls Hotel Chairs: Caroline Lever, Ed Dawes
12.40-14.30	BOFAS AGM-Oval Hall
12.40-12.50	New Members Vote/Council and President Elect
12.50-13.00	President Report
13.00-13.10	Ed Comm Report
13.10-13.20	Sci Comm Report
13.20-13.30	Out Comm Report
13.30-13.40	EFAS Report
13.40-13.50	Secretary and Coding Report
13.50-14.00	Webmaster Report
14.00-14.10	Treasurer Report
14.10-14.30	Soap Box - time for floor to bring matters to attention of council
14.30-14.35	Results of Vote/Council and President Elect Appointments
14.35-15.00	Coffee
15.00-16.00	Free Papers 2 Chairs: Matt Solan, Dave Townshend
16.00-17.00	How I do it - the experts - "Pot Pouri of issues" Chairs: Rick Brown, Paul Halliwell
16.00-16.10	Gastroc release Matt Solan
16.10-16.20	Ankle arthroscopy Callum Clark
16.20-16.30	Ankle fracture - posterior malleolus Mark B Davies
16.30-16.40	Calcaneal osteotomy Kartik Hariharan
16.40-16.50	Triple fusion Steve Hepple
16.50-17.00	Ankle fusion Mark S Davies
19.30	Dinner at Cutlers Hall

Day 3 Friday 3rd November

08.30-09.30	Current Business Issues Chairs: Andy Molloy
08.30-09.00	BOFAS Registry Registry Update PROMS Paul Halliwell
09.10-09.25	Discussion
09.10-09.25	NJR Update Andy Goldberg Questions
09.30-10.45	Free Papers 3 Chairs: Robert Clayton, Tim Clough
10.45-11.15	KEY NOTE LECTURE 2 What's going on in Ankle Arthroplasty? Lew Schon
11.15-11.45	Coffee / Brunch
11.45-12.30	Research Update Chairs: Matt Solan, Roland Russell
11.45-12.20	Research Update for foot and ankle Matt Costa and Becky Kierney
12.20-12.30	Tibial Pilon Fracture Trial Matt Costa
12.30-13.50	Tricky Arthritic Bits Chairs: Rhys Thomas, James Davis
12.30-12.40	Arthritis of the 2nd MTPJ Mark B Davies
12.40-13.00	IPJ Pain but fused 1st MTPJ - what to do? Dave Townshend
13.00-13.20	4/5 TMT pain-options for treatment Senthil Kumar
13.20-13.35	Questions
13.35 - 13.45	Best paper presentations Matt Solan & Chris Blundell
13.45-13.50	Klenermann Award Presentation Trish Allen
13.50-14.00	Presidential Handover to Steve Hepple Chris Blundell
14.00	Close of Meeting