2016 Annual Spring Meeting – 30th & 31st March
(Parallel sessions by BOSTAA & ACPA)

The ACC Liverpool

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From the President

I warmly welcome you all to Liverpool for BASK’s 2016 spring meeting. Merseyside is my adopted home and I live just across the River Mersey on the Wirral. Liverpool represents one of the finest conference venues in the country. Many of you, I am sure, will have been to meetings at the ACC before. It provides everything from first class auditoria, plenty of room to circulate and network, excellent facilities for healthcare companies to exhibit and local hotels, restaurants and bars to rest and socialise.

We welcome two affiliated societies who join us this year, BOSTAA and ACCPA. These two societies will be running some parallel sessions with our meeting. All delegates are free to circulate between the meeting rooms as you wish.

This year we have had a slight change in emphasis in the format of the meeting. In response to the feedback that we have received from our recent meetings, we have more instructional lectures and rather fewer free papers. We have sessions on paediatric knee injuries and periprosthetic fractures delivered by nationally recognised experts in their fields. As well as our usual mix of themed free papers we have as our guest, BOA president, Tim Wilton who will talk to us and receive questions from delegates. We are also most honoured to receive Clare Marx, orthopaedic knee surgeon and president of the Royal College of Surgeons who will also speak to us. We warmly welcome both to our meeting.

BOSTAA have organised a series of debates on sports topics which will prove to be stimulating and controversial.

We also have our customary registries session, not only focusing on the NJR but also the growing NLR and UKKOR. Building on the interest generated with the mock trial that we ran for the first time in Telford, we are running another medico legal session with Michael Foy, orthopaedic surgeon and medico legal expert and William Poole, a clinical negligence barrister who will speak on selected topics.

The Lorden Trickey lecture this year will be delivered by Dr Robert Barrack from Washington University St Louis Missouri, USA. Robert who is an internationally renowned knee and hip surgeon, will address us on the “Total Knee Replacement. The Patient’s Perspective”. We are most honoured that he has accepted our invitation to join with us in Liverpool.

The golf outing was held at the Royal Liverpool Golf Club on Tuesday 29 March, hosted as always by BASK stalwart John Ireland, John remains a canny golfer and I for one won’t be betting against him lifting the trophy! Our annual dinner this year is being held at Liverpool Town Hall and the venue is splendid. It is one of the finest Victorian buildings in Europe and the dining room exhibits two magnificent chandeliers. The after dinner entertainment is provided by Frank Cognoscenti who will sing our favourite Frank Sinatra songs to musical accompaniment. For those of you who like to sing (and I know there are few!) you may wish to brush up on the lyrics of “New York, New York” and “I Did it my Way”. We have again invited master of ceremonies, Pete Emmett. I know Pete from my association with Everton Football Club and he has the added advantage of being a fellow Yorkshireman. He will keep us entertained between courses!

Delegates will be requested to complete an online survey after the meeting so that we can solicit feedback and it will also enable you to obtain your CPD certificate. Thanks to David Johnson, our webmaster for coordinating that.

In my second year as president I owe an enormous thank you to the rest of the hard working BASK exec without whom this meeting would not take place. My last vote of thanks goes to Hazel Choules, our events manager who really does a wonderful job of organisation and she ensures smooth running of the conference and social programme.

It is my wish that you all enjoy yourselves. Welcome all of you to Liverpool and the scientific meeting.

Richard Parkinson and the BASK Executive
TOP SCOPE

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★ BASINGSTOKE OSTEOTOMY COURSE ★ CARDIF INFECTED KNEE MEETING ★
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“SAVE-THE-DATE”

BASK – ANNUAL SPRING MEETING
28-29 MARCH 2017 – STCC, SOUTHPORT
Live Demonstrations | BASK 2016

Wednesday, March 30, 2016 | Room 4a | ACC Convention Centre, Liverpool

Award-Winning Medical Education
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Surgical Demonstrations and Discussion Presentations Focusing On:

- Meniscal Repair
  Mr Rob Gilbert | Wrightington, UK

- Meniscal Root Avulsion
  Mr Rob Gilbert | Wrightington, UK

- Anterolateral Stabilisation of the Knee
  Mr Adrian Wilson | Basingstoke, UK

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Visit our Exhibitors!

The following companies are exhibiting at the 2016 Annual Conference to showcase their products and services.

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Please take the time to visit the stands
BASK ANNUAL SPRING MEETING 2016
THE ACC, LIVERPOOL

WEDNESDAY 30TH MARCH

08.00  REGISTRATION & COFFEE – Hall 2, Exhibition area

09.15  INTRODUCTION – Richard Parkinson, President and Tony Hui, Honorary Secretary – Room 3

Moderators:
Richard Parkinson & Simon Roberts

09.20  Risks outweigh the benefits of knee arthroscopy in middle aged or older
Agree – Andy Carr
Disagree – Ian Corry

09.40  Acute Isolated ACL tear – Primary surgery is on the rise
Agree – Amer Khan
Disagree – Fares Haddad

Session I
Colin Esler & Leela Biant

10.00  Free Paper Session:-
0115 – A MULTICENTRE RANDOMISED STUDY COMPARING TOTAL OR PARTIAL KNEE REPLACEMENT – ONE YEAR RESULTS OF THE TOPKAT TRIAL
David Beard1, Andrew Price1, Loretta Davies1, Jonathan Cook1, Graeme MacLennan1, Marion Campbell1, Andrew Carr2, Ray Fitzpatrick3, Helen Campbell3, Nigel Arden3, Helen Doll4, TOPKAT study group3, David Murray3
1University of Oxford, Oxford, UK, 2University of Aberdeen, Aberdeen, UK

10.06  0001 – IS THERE A RELATIONSHIP BETWEEN OUTCOME FOLLOWING TOTAL KNEE REPLACEMENT (TKR) AND HOSPITAL CLINICAL PRACTICES / BEHAVIOUR: AN ANALYSIS OF NATIONALLY AVAILABLE DATA FOR NHS TRUSTS IN ENGLAND AND WALES?
Moez Zeiton, David Johnson
Stockport NHS Foundation Trust, Stockport, UK

10.12  0062 – LEARNING CURVE WITH A NEW PRIMARY TKA IMPLANT: A WORLDWIDE PERSPECTIVE WITH MORE THAN 2000 PATIENTS
Ivan Brenkel1, Chong Chang2, Mark Clatworthy2, William Hamilton3, James Howard3, John-Paul Whittaker3, Stephen Kantor4, James Lesko5, Ryan Nunley6, Peter Verdonk7, Verdonna Huey8
1Queen Margaret Hospital, Dunfermline, UK, 2Auckland Bone & Joint Surgery, Auckland, New Zealand, 3Anderson Orthopaedic Clinic, Alexandria, USA, 4Dartmouth Hitchcock Medical Center, Lebanon, NH, USA, 5Robert Jones & Agnes Hunt Orthopaedic Hospital, Oswestry, UK, 6Monica Campsuits O.L.V. Middelares Hospital, Antwerp, Belgium, 7SMG-Seoul National University Boramae Medical Center, Seoul, Republic of Korea, 8DePuy Synthes Joint Reconstruction, Warsaw, IN, USA, 9Washington University School Medicine, St Louis, MO, USA, 10University of Western Ontario, London, Ontario, Canada

10.18  0075 – IN VIVO KINEMATICS FOR CUSTOMIZED VS. TRADITIONAL TKA DESIGNS: A MOBILE FLUOROSCOPY STUDY
Ian Zeller1, Adria Sharma1, Bradley Meccia1, Harold Cates1, William Kurtz1, Mathew Anderle1, Richard Komistek1
1University of Tennessee, Knoxville,TN, USA, 2Tennessee Orthopedic Clinic, Knoxville,TN, USA, 3Tennessee Orthopedic Alliance, Nashville, TN, USA

10.24  Discussion

10.30  COFFEE – (Hall 2 Lower Level – Exhibition / Posters & E-Posters)

(The abstracts relating to the Free Paper Sessions are stated on pages 12 to 18)
Session 2
Moderators: David Johnson & Tony Hui

10.50  

**Free Paper Session:**

0124 – THE ALL POLY TIBIAL COMPONENT IN TOTAL KNEE ARTHROPLASTY: MEDIUM TERM RESULT  
Emad Mallick, Tawfiaq Korim, Deepu Sethi, Steven Godsiff, Colin Esler University Hospital Leicester, Leicester, UK

10.56  

0008 – METAL BACKED VERSUS ALL-POLYETHYLENE UNICOMPARTMENTAL KNEE ARTHROPLASTY: THE EFFECT OF IMPLANT THICKNESS ON PROXIMAL TIBIAL STRAIN IN A VALIDATED FINITE ELEMENT MODEL  
Chloe Scott¹, Mark Eaton², Richard Nutton³, Frazer Wade¹, Sam Evans², Pankaj Pankaj¹  
¹University of Edinburgh, Edinburgh, UK, ²Cardiff University, Cardiff, UK, ³Royal Infirmary of Edinburgh, Edinburgh, UK

11.02  

0016 – EARLY RESULTS OF FIXED BEARING MEDIAL UNICOMPARTMENTAL KNEE REPLACEMENT USING A CEMENTED ALL POLYETHYLENE TIBIAL COMPONENT.  
Munier Hossain, Kim Howard, Richard Parkinson  
Wirral University Teaching Hospital NHS foundation trust, Liverpool, UK

11.08  

Discussion

11.14  

0019 – NO DIFFERENCE IN TWO-YEAR FUNCTIONAL OUTCOMES USING KINEMATIC VERSUS MECHANICAL ALIGNMENT IN TKA – A RANDOMIZED CONTROLLED CLINICAL TRIAL  
Simon Young¹, Matthew Walker¹, Ali Bayan¹, Toby Brien-Evans¹, Paul Pavlou¹, Bill Farrington¹  
¹North Shore Hospital, Auckland, New Zealand, ²Royal Bournemouth Hospital, Bournemouth, UK, ³North Hampshire Hospital, Basingstoke, UK

11.20  

0029 – RANDOMISED CONTROL TRIAL: THE FUNCTIONAL BENEFITS OF RETAINING THE INFRAPETELLAR FAT PAD IN A TOTAL KNEE REPLACEMENT  
Anthony Howard¹, Moez Ballal¹, Matthew Cartwright¹, Alasdair Santini¹, Andrew Philipson¹, Jo Banks¹  
¹RLBUHT, Liverpool, UK, ²Academic Unit, Leeds General Infirmary, Leeds, UK, ³Southport and Ormskirk NHS Trust, Ormskirk, UK

11.26  

0127 – THE INCIDENCE AND IMPACT OF ARTHROSCOPY IN THE YEAR BEFORE TOTAL KNEE ARTHROPLASTY  
Simon Barton, George McLauchlan, Stephen Canty  
Lancashire Teaching Hospitals NHS Trust, Lancashire, UK

11.32  

Discussion

11.40  

NJR/National Joint Registry – **Martyn Porter**, NJR Medical Director  
Peter Howard, Chair, Surgeon Outlier & Implant Scrutiny Committee

12.00  

ODEP for Knees – Keith Tucker

12.25  

Guest Speaker: **Tim Wilton**, President of the BOA  
Presentation “Outlook from the BOA Office”

13.00  

LUNCH – (Hall 2 Lower Level – Exhibition / Posters & E-Posters)

14.00  

Guest Speaker: **Clare Marx**, President of the RCS Eng  
Presentation “View from the Centre”

14.40  

Paediatric Session;  
Paul Gibb – Juvenile ACL Injuries  
Fergal Monsell – Physeal Injuries  
Jonathan Eldridge – Patellofemoral Instability

15.40  

TEA – (Hall 2 Lower Level – Exhibition / Posters & E-Posters)

16.00  

Medicolegal Session  
Mike Foy - Common Medico legal pitfalls for the orthopaedic surgeon  
William Poole – Montgomery and consent issues

17.30 – 18.30  

**AGM** – All members of BASK are invited to attend – **Room 3** (AGM Agenda on page 19)

17.30 – 18.30  

Arthrex – “**Cadaveric Demonstration**” – Live Link in Room 4a from the Mobile Surgical Unit  
“Limited spaces available” – Please visit Arthrex on their Stand no.8 to request an invitation.  
19.30pm for 20.15pm – Annual Dinner, ‘TOWN HALL’ Liverpool. Entrance by Ticket ONLY.

(The abstracts relating to the Free Paper Sessions are stated on pages 12 to 18)
Please note: Filming, recording or photography during the two-day Meeting is Strictly Prohibited unless by prior agreement with the Executive Committee.

This Meeting will be accredited with CME Points

THURSDAY 31st MARCH
Day-Two – BASK 2016 Annual Meeting – ACC Liverpool
Welcome to Day 2

08.00 COFFEE – (Hall 2 Lower Level – Exhibition / Posters & E-Posters)
08.30 Start of 2nd day’s Proceedings – Room 3

Session 3
Moderators: Andrew Porteous & Adil Ajuied

08.40 Free Paper Session:
0073 – PROPHYLACTIC ANTIBIOTICS IN ELECTIVE HIP AND KNEE ARTHROPLASTY – AN ANALYSIS OF ORGANISMS REPORTED TO CAUSE INFECTION AND A NATIONAL SURVEY OF CLINICAL PRACTICE
Craig Hickson1, David Metcalfe2, Suzanne Elgohari1, Tamsin Oswald4, James Masters4, Monika Rymaszewska5, Mike Reed4, Andrew Sprowson6
1Leicester Royal Infirmary, Leicester, UK, 2Center for Surgery and Public Health, Harvard Medical School, Boston, USA, 3Department of Healthcare Associated Infections & Antimicrobial Resistance, Public Health England, London, UK, 4Northumbria Healthcare NHS Foundation Trust, Northumberland, UK, 5Wansbeck Hospital, Northumberland, UK, 6Warwick Orthopaedics, Coventry, UK

08.46 0104 – CORONAL KNEE ALIGNMENT: RELIABILITY OF WEIGHTBEARING & NON-WEIGHTBEARING SHORT VS LONG LEG RADIOGRAPHS
Sam Yasen, Zak Borton, David Elson, Ed Britton, Adrian Wilson
Hampshire Hospitals NHS Trust, Basingstoke, UK

08.52 0098 – PREDICTING DISSATISFACTION FOLLOWING TOTAL KNEE REPLACEMENT IN PATIENTS UNDER 55 YEARS OF AGE
Chloe Scott, William Oliver, Deborah MacDonald, Frazer Wade, Matthew Moran, Steffen Breusch
Royal Infirmary of Edinburgh, Edinburgh, UK

08.58 Discussion

09.04 0041 – EXPERIENCES USING A REVISION ARTHROPLASTY NETWORK: A REVIEW OF THE FIRST 250 CASES
Benjamin Bloch, Martin Raglan, Andrew Manktelow, Peter James
Nottingham University Hospitals NHS Trust, Nottingham, UK

09.10 0056 – ONE STAGE REVISION KNEE ARTHROPLASTY: MEAN 5 YEARS RESULTS FROM A TERTIARY CARE CENTRE
Rahul Kakar, Nima Razii, Rhidian Morgan-Jones
Llandough Hospital, Cardiff, UK

09.16 0043 – TWO STAGE DEBRIDEMENT WITH ANTIBIOTIC CEMENT BEADS AND PROSTHESIS RETENTION FOR ACUTE PERIPROSTHETIC INFECTIONS AFTER KNEE ARTHROPLASTY
Matthew Niesen, Mark Spangehl, Henry Clarke, Adam Schwartz, Christopher Beauchamp
Mayo Clinic, Phoenix, Arizona, USA

09.22 Discussion

Session 4
Moderators: Robert Barrack & Andrew Price

09.28 Free Paper Session:
0156 – PATIENT REPORTED OUTCOME FOLLOWING TOTAL KNEE ARTHROPLASTY; DOES ETHNICITY INFLUENCE THE OUTCOME?
Mehdi Suzangar, James Kennedy, Ujjit Chatterji, Colin Esler
University Hospitals of Leicester NHS Trust, Leicester, UK

09.34 0028 – THE GOOD AND BAD OF KNEE REPLACEMENT – COMBINING TRANSITION, SATISFACTION AND PROM DATA TO DEFINE PATIENT OUTCOME AFTER TKA
Anqi Gao, Abtin Alvand, William Jackson, Nicholas Bottomley, David Beard, Andrew Price
University of Oxford, Oxford, Oxfordshire, UK

(The abstracts relating to the Free Paper Sessions are stated on pages 12 to 18)
09.40  0025 – DOES PRE-OPERATIVE ANXIETY AND DEPRESSION AFFECT PATIENT OUTCOME AFTER PRIMARY KNEE REPLACEMENT ARTHROPLASTY?
Andrew Jones, Tim James, Andrew Davies
Morriston Hospital, Swansea, Wales, UK

09.46  Discussion

09.52  0091 – PREDICTING CHRONIC POSTOPERATIVE PAIN BY ASSESSING CENTRAL SENSITIZATION IN PATIENTS UNDERGOING TKR SURGERY: A PRELIMINARY FUNCTIONAL BRAIN MRI STUDY AT 3-TELSA.
Thomas Kurien1, Diane Reckziegel2, William Cottam2, Kristian Petersen1, Richard Pearson1, Lars Arendt-Nielsen1, Thomas Graven-Nielsen1, Dorothee Auer1, Brigitte Scammell1
1Academic Division of Trauma and Orthopaedics, Queen’s Medical Centre, Arthritis Research UK Pain Centre, The University of Nottingham, Nottingham, UK, 2Academic Radiology, Arthritis Research UK Pain Centre, The University of Nottingham, Nottingham, UK

09.58  0033 – IDENTIFYING PRE-OPERATIVE NEUROPATHIC PAIN AS A MARKER OF POOR OUTCOME FOLLOWING KNEE REPLACEMENT SURGERY.
Anushka Soni1, Nick Bottomley1, William Jackson2, Irene Tracey2, M. Kassim Javaid1, Andrew Price1
1Oxford NIHR Musculoskeletal Biomedical Research Unit, Nuffield Department of Orthopaedics, Rheumatology and Musculoskeletal Sciences, Oxford, UK, 2Centre for Functional Magnetic Resonance Imaging of the Brain (FMRIB), University of Oxford, Oxford, UK

10.04  0052 – UNEXPLAINED PAIN FOLLOWING TOTAL KNEE ARTHROPLASTY: IS ROTATIONAL MALALIGNMENT THE PROBLEM?
Simon Young2, Mark Spangehl1, Henry Clarke1
1Mayo Clinic, Phoenix, Arizona, USA, 2University of Auckland, Auckland, New Zealand

10.10  Discussion

10.20  COFFEE – (Hall 2 Lower Level – Exhibition / Posters & E-Posters)

10.50  Guest Speaker: Peter Giannoudis – Periprosthetic Fractures

11.20  Registry Session – UKNLR – Sean O’Leary
UKKOR – David Elson

12.00  ‘Lorden Trickey Lecture’
Guest Lecturer: Dr. Robert Barrack (USA)
Presentation: “Total knee replacement – the patient’s perspective”

12.45  LUNCH – (Hall 2 Lower Level – Exhibition / Posters & E-Posters)

13.30  Presentation of Awards for 2016
Presidential Award for “Best Podium Presentation for 2015 – 2016”
Prizes awarded for the ‘Best 2016 Podium, Poster & E-Poster Presentations’.
Golf Trophy

13.50  Report from Travelling / Research Fellows

14.10  Debate and Focus on Meniscal allograft transplantation
Moderator: Simon Roberts
ACI is a waste of money
Agree – Rhidian Thomas
Disagree – Leela Biant

14.30  Focus on meniscal allograft:
Meniscal allograft transplantation in 2016: Where are we now? Tim Spalding
Reflections on long term outcome data Katherine Van Der Straeten

(The abstracts relating to the Free Paper Sessions are stated on pages 12 to 18)
Session 5
Moderators: Sanjeev Anand & Richard Parkinson

14.50 Free Paper Session:
00146 – KNEE ARTHROPLASTY IN PATIENTS PREVIOUSLY TREATED WITH AUTOLOGOUS CHONDROCYTE IMPLANTATION
Emile Schutgens, Daud Chou, George Bentley, John Skinner, Timothy Briggs
Royal National Orthopaedic Hospital, Stanmore, UK

14.56 0023 – RETURNING TO WORK AFTER JOURNEY II TOTAL KNEE REPLACEMENT
Ann Avery, Joanne Banks, John Davidson, Andrew Phillipson, Jill Pope & Alasdair Santini.
The Lower Limb Arthroplasty Unit, Royal Liverpool and Broadgreen University Hospitals NHS Trust, Liverpool, UK

15.02 0078 – A DOUBLE BLIND, RANDOMISED, CONTROLLED COMPARATIVE STUDY OF THE DEPUY PFC SIGMA AND CR150 TOTAL KNEE REPLACEMENTS.
Anthony Redmond¹, Graham Chapman¹, Richard Wilkins¹, Todd Stewart¹, Derrick White¹, Elizabeth Hensor¹, Ramakrishnan Venkatesh²
¹University of Leeds, Leeds, UK, ²Leeds Teaching Hospitals NHS Trust, Leeds, UK

15.08 Discussion

15.14 0106 – TRENDS IN THE OXFORD KNEE SCORE FOLLOWING MEDIAL-OPENING WEDGE HIGH TIBIAL OSTEOTOMY & THE IMPACT OF KELLGREN-LAWRENCE GRADE
Sam Yasen¹, Harry Palmer¹, David Elson¹, Matt Dawson¹, Chris Wilson¹, Adrian Wilson¹
¹Hampshire Hospitals NHS Trust, Basingstoke, UK, ²Cardiff & Vale University Health Board, Cardiff, UK, ³North Cumbria University Hospitals NHS Trust, Carlisle, UK

15.20 0158 – OXFORD DOMED LATERAL PARTIAL KNEE REPLACEMENT: UPTO 10 YEAR FOLLOW-UP. AN INDEPENDENT SINGLE SURGEON SERIES
Simon Newman, Helen Alsop, Justin Cobb
Imperial College London, London, UK

15.26 Discussion

15.30 0144 – VIRTUAL CLINIC FOLLOW-UP OF HIP AND KNEE REPLACEMENT: A PATIENT SURVEY
Laura McArthur, Gabriel Fieraru, Dan Williams
Royal Cornwall Hospitals NHS Trust, Cornwall, UK

15.36 0142 – VIRTUAL CLINIC FOLLOW-UP OF PRIMARY JOINT REPLACEMENT PATIENTS
William Reeve, Laura McArthur, Dan Williams
Royal Cornwall Hospitals NHS Trust, Cornwall, UK

15.42 0143 – THE INFLUENCE OF DESIGN OF PATIENT SPECIFIC INSTRUMENTATION ON ACCURACY OF PLACEMENT IN UNICOMPARTMENTAL KNEE REPLACEMENT
Simon Newman, Susannah Clarke, Simon Harris, Justin Cobb
Imperial College London, London, UK

15.48 Discussion

15.55 Closing Remarks – President, Richard Parkinson

16.10 Close of 2016 BASK Annual Spring Meeting
(Preparation of the Knee)

(The abstracts relating to the Free Paper Sessions are stated on pages 12 to 18)
0015 – A MULTICENTRE RANDOMISED STUDY COMPARING TOTAL OR PARTIAL KNEE REPLACEMENT – ONE YEAR RESULTS OF THE TOPKAT TRIAL
David Board, Andrew Price1, Loretta Davies1, Jonathan Cook1, Graeme Maclean1, Marion Carr1, Andrew Cart1, Ray Fitzpatrick1, Helen Campbell1, Nigel Arden1, Helen Doll1, TOPKAT study group 2, David Murray1
1University of Oxford, Oxford, UK; 2University of Aberdeen, Aberdeen, UK

Background: Early (one year) follow up results are presented for TOPKAT, a multi-centre randomised trial assessing the clinical and cost effectiveness of Partial Knee Replacement (PKR) compared to Total Knee Replacement (TKR) in patients with antero-medial osteoarthritides of the knee.

Method: 528 patients were recruited from 27 sites and randomised to TKR or PKR. The primary outcome was the Oxford Knee Score (OKS), collected at 2 months, 1 year and annually to 5 years. Secondary outcomes included complications and re-operation, activity scores, cost-effectiveness, and patient satisfaction.

Results: Baseline variables between groups were balanced. At 1 year OKS result was 1.9 points ([95% CI, 0.2 to 3.6 p=0.029) in favour of PKR. Secondary outcomes mostly reflected the same pattern. 89% of PKR patients reported they would have the operation again compared with 77% of TKR patients (<0.001). There were 9 events for readmission in the PKR group (including 2 bearing revisions and 2 MUAs) and 15 events in the TKR group with 6 MUAs for stiffness. A composite outcome variable for failure showed that 11% of PKR’s failed compared to 15% in the TKR group (a relative risk of 0.72 [95% CI 0.46, 1.11]) in favour of the PKR group.

Conclusions: Both operations had good early outcome. There was no evidence at 1 year that TKR was superior to PKR. Several separate outcomes showed a difference in favour of PKR, though some were of uncertain clinical significance. Longer term results from TOPKAT are now required.

0062 – LEARNING CURVE WITH A NEW PRIMARY TKA IMPLANT: A WORLDWIDE PERSPECTIVE WITH MORE THAN 2000 PATIENTS
Ivan Brenke1, Chong Chang2, Mark Cla Westworthy3, William Hamilton1, James Howard2, John-Paul Whittaker1, Stephen Kantor1, James Lesko3, Ryan Nunley2, Peter Verdonk2, Verdonna Huey3
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Materials & Methods: From November 2012 to July 2015, 2369 primary TKAs were enrolled in two studies (50 sites in 14 countries) with a new knee system (NEW-TKA). The NEW-TKAs were compared to 843 primary TKAs from three manufacturers (CA-TKA) with the same configurations as the NEW-TKA. Demographics for NEW-TKA and CA-TKA were similar. Operative times, clinical outcomes and a series of patient reported outcomes were compared between the first 10 New-TKA subjects for each surgeon (defined as learning curve cases N=520) and all later subjects (N=1849).

Results: Mean (SD) surgical time for NEW-TKA learning curve cases was 79.1 (24.3) minutes; later reduced to 73.6 (24.3) (p=0.002). Beyond 10 cases, there was continued reduction in NEW-TKA surgical time (R-Squared = 0.031); on par with the mean (SD) 71.9 (21.6) for CA-TKA (p=0.078).

The intraoperative adverse events were 1.3% for the NEW-TKA learning curve cases; similar to the 0.6% rate for historical CA-TKA (p=0.231). The 0.6% intraoperative complication rate for NEW-TKA later cases was consistent with learning curve cases (p=0.158).

Discussion: This study found surgeon learning curve with this new primary TKA system does not adversely affect patient short-term outcomes and complication rates.
10:50 – Session 2
Moderators: David Johnson & Tony Hui

0124 – THE ALL POLY TIBIAL COMPONENT IN TOTAL KNEE ARTHROPLASTY: MEDIUM-TERM RESULT
Emad Mallick, Tawfik Korim, Deepu Sethi, Steven Goddiss, Colin Esler
University Hospital Leicester, Leicester, UK

Introduction: The all polyethylene tibial (APT) component may be equivalent or better than a metal backed tibial (MBT) component in terms of survival.

Objectives: To analyse the revision rates in a large UK unit, comparing the APT to the MBT after a minimum of 5 years

Methods: We retrospectively reviewed the medical records and radiographs of 138 consecutive UKR performed between September 2009 and July 2014. All cases were performed by the senior author.

Results: There were 2500N. Cancellous microdamage was measured using AE. FEMs were performed for unexplained pain possibly secondary to elevated proximal bone strain. This study investigates the effect of tibial component configuration on cancellous bone strain in a finite element model (FEM) of a cemented fixed bearing medial UKR, validated using acoustic emission (AE). Ten composite tibias implanted with all-APT to the MBT after a minimum of 5 years Median age of 75 years. The median age in the MBT was 69 years. The median follow-up was 75.8 months. There was significantly more revisions in the MBT group compared to the APT (1.9% vs 0.6%), (p=0.05, Fishers exact test). The APT were revised for patella dislocation (1), infection (1) and loosening (1). Aseptic loosening was the commonest reason for revision in the MBT.

Conclusions: Mid term results show lower revision rate of APT as compared to cemented modular implants. We advocate implantation of APT due to its comparable survival and cost effectiveness

0008 – METAL BACKED VERSUS ALL-POLYETHYLENE UNICOMPARTMENTAL KNEE ARTHROPLASTY: THE EFFECT OF IMPLANT THICKNESS ON PROXIMAL Tibial STRAIN IN A VALIDATED FINITE ELEMENT MODEL
Chloe Scott1, William Mark Eaton2, Richard Nutton3, Frazer Wade3, Sam Evans3, Pankaj Pankaj1
1University of Edinburgh, Edinburgh, UK, 2Cardiff University, Cardiff, UK, 3Royal Infirmary of Edinburgh, Edinburgh, UK

Unicompartmental knee replacements (UKRs) are an attractive option for treating medial compartment osteoarthritis, but 25-40% of revisions are performed for unexplained pain possibly secondary to elevated proximal tibial bone strain. This study investigates the effect of tibial component metal backing and polyethylene thickness on cancellous bone strain in a finite element model (FEM) of a cemented fixed bearing medial UKR, validated using acoustic emission (AE). Ten composite tibias implanted with all-polyethylene (AP) and metal backed (MB) tibial components were loaded to 2500N. Cancellous microdamage was measured using AE. FEMs were created and validated and polyethylene thickness was varied 6-10mm. The volume of cancellous bone exposed to <-3000 and <-7000 minimum principal microstrain (tensile) was measured. Linear regression analysis showed good correlation between AE data and FEM predicted volume of cancellous bone with compressive strain <3000µε: correlation coefficients (R= 0.947, R2 = 0.847), standard error of the estimate (12.6 AE hits) and percentage error (12.3%) (p<0.001). Cancellous bone strains were higher in AP implants for all strains at all loads. Strain patterns differed between implants: MB lateral edge concentrations; and AP concentrations at keel, peg and at the region of load application. AP implants had 2.2 (10mm) to 3.2 (6mm) times the volume of cancellous bone compressively strained <7000µε than MB implants. Altering MB polyethylene insert thickness had no effect. These results suggest caution should be used with all-polyethylene UKR implants and polyethylene thickness was varied 6-10mm. The volume of cancellous bone exposed to <-3000 and <-7000 minimum principal microstrain (tensile) was measured. Linear regression analysis showed good correlation between AE data and FEM predicted volume of cancellous bone with compressive strain <3000µε: correlation coefficients (R= 0.947, R2 = 0.847), standard error of the estimate (12.6 AE hits) and percentage error (12.3%) (p<0.001). Cancellous bone strains were higher in AP implants for all strains at all loads. Strain patterns differed between implants: MB lateral edge concentrations; and AP concentrations at keel, peg and at the region of load application. AP implants had 2.2 (10mm) to 3.2 (6mm) times the volume of cancellous bone compressively strained <7000µε than MB implants. Altering MB polyethylene insert thickness had no effect. These results suggest caution should be used with all-polyethylene UKR implants especially in large or active patients where loads are higher.

0016 – EARLY RESULTS OF FIXED BEARING MEDIAL UNICOMPARTMENTAL KNEE REPLACEMENT USING A CEMENTED ALL POLYETHYLENE TIBIAL COMPONENT
Munier Hosaini, Kim Howard, Richard Parkinson
Wirral University Teaching hospital NHS foundation trust, Liverpool, UK

Objective: The objective of this study was to evaluate the early results of a fixed bearing medial UKR performed using a cemented all polyethylene (UHMWPE) tibial component.

Methods: We retrospectively reviewed the medical records and radiographs of 138 consecutive UKR performed between September 2009 and July 2014. All cases were performed by the senior author.

Results: There were 78 males and 60 females. Mean age was 65 (range 40-87). Follow up ranged from 12-72 months. 2 patients died. 14 (8.70%) were lost to follow up. The mean body mass index was 30 (range 21-49). There were no clinically significant venous thrombo-embolism events. There were no intraoperative complications or deep infections. 1 patient developed a postoperative pain syndrome and associated stiffness requiring manipulation under anaesthesia. 105 patients (86%) were highly satisfied or satisfied with surgery. 17 patients (14.31%) were not satisfied following surgery, 10 of whom (8.19%) had unexplained pain. There were 3 revisions (2.17%), 1 for a progressive radiolucency and 1 was revised unsuccessfully by another surgeon for unexplained pain that persisted after revision. 1 patient awaits revision for progression of patello-femoral arthritis. A radiolucent line was observed beneath the tibial base plate in 3 further patients who remain under surveillance. The cumulative probability of survival at 5 years was 97.41% (95% CI 92.72%-99.23%).

Conclusions: Using an all UHMWPE tibial component resulted in a cost saving of 33,810 GBP (245 GBP per case) compared to the more commonly used modular tibial design without adversely affecting the clinical outcome.

0019 – NO DIFFERENCE IN TWO-YEAR FUNCTIONAL OUTCOMES USING KINEMATIC VERSUS MECHANICAL ALIGNMENT IN TKA – A RANDOMIZED CONTROLLED CLINICAL TRIAL
Simon Young1, Matthew Walker1, Ali Bayan1, Toby Briant-Evans2, Paul Pavlov3, Bill Farrington1
1North Shore Hospital, Auckland, New Zealand, 2Royal Bournemouth Hospital, Bournemouth, UK, North Hampshire Hospital, Basingstoke, UK

Neutral mechanical alignment (MA) in total knee arthroplasty (TKA) aims to position femoral and tibial components perpendicularly to the mechanical axis of the limb. In contrast, Kinematic Alignment (KA) matches implant position to the pre-articular anatomy of the individual patient, with the aim of improving functional outcome.

Question: Are two-year patient-reported outcome scores enhanced in patients with KA compared to MA technique?

Methods: Ninety-nine primary TKAs were randomized to either MA (n=50) or KA (n=49) groups. In the KA group, patient specific cutting-blocks were manufactured using individual pre-operative MRI data. In the MA group, computer navigation was used to ensure neutral mechanical alignment accuracy. Post-operative alignment was assessed with CT scan, and functional scores were assessed pre-operatively and at 6 weeks, 6 months, 1 and 2 years post-operatively.

Results: There was no difference in 2-year change scores (post-op minus pre-op score) in KA versus MA patients for the Knee Society Score (21.9 vs 20.0, p=0.4), Western Ontario and McMaster Universities score (38.3 vs 35.1, p=0.32), or Forotten Joint score (29.2 vs 26.7, p=0.8). Post-operative hip-knee-ankle axis was similar between groups (KA 0.4° vs MA 0.7° valgus), but in the KA group the tibial component was in mean 2.1° more varus than the MA group (95% CI 1.0°-3.2°, p=0.0003) and the femoral component in 1.4° more valgus (95% CI 0.5°-2.3° p=0.003). Complication rates were similar between groups.

Conclusion: We found no difference in two-year patient reported outcome scores in TKAs implanted using the KA versus MA technique.

0029 – RANDOMISED CONTROL TRIAL: THE FUNCTIONAL BENEFITS OF RETAINING THE INFRAPETELLAR FAT PAD IN A TOTAL KNEE REPLACEMENT
Anthony Howard1, Moez Ballal1, Matthew Cartwright2, Alasdair Santini2, Andrew Philipson1, Jo Banks1
1RLBUH, Liverpool, UK, 2Academic Unit, Leeds General Infirmary, Leeds, UK, 3Southport and Ormskirk NHS Trust, Ormskirk, UK

Introduction: This is a randomised control study to analyse whether the excision of the infrapatellar fat pad (Hoffa’s fat pad) during a Total Knee Replacement, alters the post-operative pain and/or function.

Authors of the Podium Presentations have submitted an E-Poster of their presentation which can be viewed on the screens within the exhibition area (Hall 2a)
0127 – THE INCIDENCE AND IMPACT OF ARTHROSCOPY IN THE YEAR BEFORE TOTAL KNEE ARTHROPLASTY
Simon Barton, George McLauchlan, Stephen Carty
Leicester Royal Infirmary, Leicester, UK, 2Center for Surgery and Public Health, Hampshire Hospitals NHS Trust, Basingstoke, UK

Introduction: Prior knee surgery and arthroscopy is known to increase complications and re-operations in subsequent total knee replacement (TKR). National guidelines recommend a 1-year conversion rate <10% for knee arthroscopy to arthroplasty.

Aims: To establish if arthroscopy in the year before TKR impacts upon patient rated outcome measures.

Methods: A retrospective review of theatre and clinical records identified all patients undergoing TKR within a year of arthroscopy (2009 – 2013). Oxford knee score (OKS) data was then compared with a published cohort from same department (1708 patients).

Results: 187 patients were identified who underwent TKR within a year of arthroscopy (mean age 64 (SD 10); BMI 31.4 (SD 4.6)). There was no significant difference between groups with respect to sex, age, BMI, or pre-operative OKS.

103/187 patients underwent TKR within 6 months of arthroscopy. 43 patients had TKR within 4 months of arthroscopy.

Conclusions: TKR should not be performed within 6 months of arthroscopy, and current national guidelines suggesting an acceptable 10% conversion rate may need revising.

BASK 2016 Podium Presentations
THURSDAY 31st March – Free Papers

8.40am – Session 3
Modemators: Andrew Porteous & Adil Ajayed

0073 – PROPHYLACTIC ANTIBIOTICS IN ELECTIVE HIP AND KNEE ARTHROPLASTY – AN ANALYSIS OF ORGANISMS REPORTED TO CAUSE INFECTION AND A NATIONAL SURVEY OF CLINICAL PRACTICE
Craig Hickson1, David Metcalfe1, Suzanne Elgohari3, Tamsin Oswald4, James Masters3, Monika Rymaszewska1, Mike Reed1, Andrew Sprowson1
1Leicester Royal Infirmary, Leicester, UK, 2Center for Surgery and Public Health, Harvard Medical School, Boston, USA, 3Department of Healthcare Associated Infections & Antimicrobial Resistance, Public Health England, London, UK, 4Northumbria Healthcare NHS Foundation Trust, Northumberland, UK, 5Wansbeck Hospital, Northumberland, UK, 6Warwick Orthopaedics, Coventry, UK

Objectives: To investigate regional variations in the organisms reported as causing peri-prosthetic infections and to report on prophylaxis regimens currently in use across England.

Methods: Analysis of data routinely collected by Public Health England’s (PHE) national surgical site infection database on elective primary hip and knee arthroplasty procedures between April 2010 and March 2013 to investigate regional variations in causative organism. A separate national survey of 145 hospital trusts (ignoring hospitals under local management) in England routinely performing primary hip and/or knee arthroplasty was carried out by standardised email questionnaire.

Results: Analysis of 189 858 elective primary hip and knee arthroplasty procedures and 1116 surgical site infections found statistically significant variations for some causative organism between regions. There was a 100% response rate to the prophylaxis questionnaire that showed substantial variation between individual trust guidelines. A number of regimens currently in use are inconsistent with the best available evidence.

Conclusion: The approach towards prophylactic prophylaxis in elective arthroplasty nationwide reveals substantial variation without clear justification. Only seven causative organisms are responsible for 89% of infections affecting primary hip and knee arthroplasty, which cannot justify such widespread variation between prophylactic antibiotic policies.

0104 – CORONAL KNEE ALIGNMENT: RELIABILITY OF WEIGHTBEARING & NON-WEIGHTBEARING SHORT VS LONG LEG RADIOGRAPHS
Sam Yasen, Zak Borton, David Elson, Ed Britton, Matthew Rieseby, Adrian Wilson
Hampshire Hospitals NHS Trust, Basingstoke, UK

Introduction: Realignment osteotomy has become an accepted surgical procedure for the management of unicompartamental knee arthritis. It requires preoperative planning which can be performed using weight-bearing (WB) and non-weightbearing (NWB) knee radiographs, ‘long-leg’ alignment radiographs, and CT scanograms. We compare the accuracy of WB and NWB knee radiographs taken on a standard short leg film, against ‘long-leg’ (LL) radiographs, which are routinely performed at our institute.

Methods: Coronal plane knee alignment was assessed on 30 consecutive patients with WB knee films taken prior to long-leg alignment views, and 30 with NWB radiographs and LL films. Inclusion criteria were that radiographs were performed no greater than 6 months apart, were of a joint which subsequently underwent osteotomy, and that the short-leg views had sufficient exposure to allow the axis to be measured by a validated technique.

Results: The short leg WB films differed from LL views by a mean of 1.79 degrees (95% CI: 1.35-2.24); and the NWB films against the LL views by 2.88 degrees (95% CI:1.92-3.83). Neither of these reached statistical significance, p=0.35 and p=0.21 respectively. However, the magnitude of the deviation between short and long leg radiographs differed significantly between WB and NWB films, p=0.05.

Conclusion: There is a significant difference in the reliability of WB versus NWB films in measuring coronal plane knee alignment. This raises concerns if CT scanograms (which are non-weightbearing) are used for preoperative planning. There was an observed difference between short and long leg radiographs but this did not reach statistical significance.

0098 – PREDICTING DISSATISFACTION FOLLOWING TOTAL KNEE REPLACEMENT IN PATIENTS UNDER 55 YEARS OF AGE.
Chloe Scott, William Oliver, Deborah MacDonald, Frazer Wade, Matthew Moran, Steffen Breusch
Royal Infirmary of Edinburgh, Edinburgh, UK

The aim of this study was to identify predictors of dissatisfaction following TKR in patients younger than 55 of age. We assessed 177 TKRs (157 consecutive patients) implanted from 2008 to 2013. Data was collected on age, sex, implant, indication for surgery, BMI, range of motion, and prior knee surgery in addition to the Oxford Knee Score (OKS) and SF-12. Post-operative data included knee range of movement complications, and OKS, SF-12 and satisfaction measures at one year. Overall 75.1% (133/177) patients were satisfied or very satisfied; 24.9% (44/177) of patients were unsatisfied or dissatisfied. Significant predictors of dissatisfaction were: worse preoperative OKS (satisfied 17.7 ± 6.6 vs dissatisfied 14.4 ± 6.1, p=0.004 T-test); indication for surgery (p=0.010, Chi squared) – primary osteoarthritis (OA) 19.3% dissatisfied (11/57), secondary OA with previous meniscectomies (open n=2) 40.6%

Authors of the Podium Presentations have submitted an E-Poster of their presentation which can be viewed on the screens within the exhibition area (Hall 2a)
0043 – TWO STAGE DEBRIDEMENT WITH ANTIBIOTIC CEMENT BEADS AND PROSTHESIS RETENTION FOR ACUTE PERIPROSTHETIC INFECTIONS AFTER KNEE ARTHROPLASTY
Matthew Niesen, Mark Spanghel, Henry Clarke, Adam Schwartz, Christopher Beauchamp
Mayo Clinic, Phoenix, Arizona, USA

Purpose: Debridement with prosthetic retention is one treatment option in acute peri-prosthetic joint infection (APII). However, failure rates for single stage debridement have been reported to be as high as 60-80%. This study sought to determine the success of an alternative two stage debridement using antibiotic impregnated cement beads.

Methods: 44 patients (25 men, 19 women; average age of 65.7 years) underwent a 2 stage debridement protocol for APII with less than 4 weeks of symptoms following total knee arthroplasty between 2002 and 2014. All patients met the Musculoskeletal Infection Society criteria for APII. The protocol included: 1) initial debridement with placement of high dose antibiotic beads; 2) repeat debridement at an average of 5.1 days with removal of antibiotic beads and exchange of modular parts; and 3) 6 week course of IV antibiotics.

Results: Patients were classified as successfully treated if they did not require re-operation for infection and had no evidence of infection clinically.

Conclusions: Patients with acute prosthetic infections after knee arthroplasty can be successfully treated, using a two-stage debridement protocol with prosthetic retention and high dose antibiotic beads. The 86% success rate is better than historic series using a single stage protocol.

0.936 – Session 4
Moderator: Robert Barrack & Andrew Price

0056 – ONE STAGE REVISION KNEE ARTHROPLASTY- MEAN 5 YEARS RESULTS FROM A TERTIARY CARE CENTRE
Rahul Kakar, Nima Razii, Rhidian Morgan-Jones
Llandough Hospital, Cardiff, UK

Periprosthetic joint infection is one of the major cause for morbidity after TKR. Although it is rare < 1% incidence, for the patients, it's a major cause of morbidity and has significant psychological, emotional and financial impact. Two stage- techniques remain the 'gold standard' in most of the centres, however on critically reviewing the available literature there is no clear evidence if one is better than other. There are major advantage of one stage revision with reduced hospital stay, reduced cost and higher patient satisfaction.

We reviewed 107 consecutive patients, operated by a single surgeon, in our hospital from 2008 to 2013. Each was treated by a defined debridement protocol and an immediate one-stage performed (not a 2-in-1 protocol). Reconstructive and fixation was by a predominantly uncemented method. 5 recurrences (8%) were noted, with the remaining 92% infection free at 2.5 years.

Revision TKR for infection in a Single-stage, performed by a high volume revision surgeon is therefore equivalent to the best outcomes of 2-stage protocols.

0028 – THE GOOD AND BAD OF KNEE REPLACEMENT – COMBINING TRANSITION, SATISFACTION AND PROM TO DEFINE PATIENT OUTCOME AFTER TKA
Anqi Gao, Abin Alvand, William Jackson, Nicholas Bottomley, David Beard, Andrew Price
University of Oxford, Oxford, Oxfordshire, UK

Background: Outcome of total knee arthroplasty (TKA) can be assessed using the Oxford Knee Score (OKS) in conjunction with two anchor questions addressing patients’ satisfaction and perceived ‘transition’ of symptoms.
compared to pre-operation. The aim of this study was to determine the relationship between ‘satisfaction’ and ‘transition’ ratings, and develop an anchor-based approach to evaluate outcome following TKA.

**Methods:** This study used the 2012-2013 TKA PROMs dataset (n=40,622), which were prospectively collected through the NHS PROMs program. The two anchor questions were combined in a step-wise fashion to create an algorithm for overall assessment of TKA outcome. Based on their responses to the anchors, patients were categorized into three outcome groups – “good”, “intermediate” and “bad”. Outcome category-specific effect size was calculated based on OKS change.

**Results:** There was a significant positive correlation between ‘satisfaction’ and ‘transition’ (R-squared=0.507, p<0.001). 82% of patients had a good outcome with a large effect size of 2.37 (95% CI (2.35, 2.39)). 7% improved by a smaller amount and felt dissatisfied despite an effect size of 1.21 (95% CI (1.15, 1.27)). 11% experienced a poor outcome characterised by a small effect size of 0.27 (95% CI (0.22, 0.31)).

**Conclusion:** This anchor-based tool for assessing TKA outcome is potentially more meaningful to patients. Our study highlights a dilemma within knee arthroplasty where 82% of patients recognise a large improvement in quality of life following TKA; 7% improve, but not to the extent that makes them satisfied; 11% do not report improvement (i.e. have a bad outcome).

### 0025 – DOES PRE-OPERATIVE ANXIETY AND DEPRESSION AFFECT PATIENT OUTCOME AFTER PRIMARY KNEE REPLACEMENT ARTHROPLASTY?

**Andrew Jones, Tim James, Andrew Davies**

Morriston Hospital, Swansea, Wales, UK

Chronic pain is associated with psychological distress, most commonly manifested as anxiety and depression. We prospectively investigated the anxiety and depression levels of a cohort of 104 patients undergoing a total of 107 knee arthroplasty procedures and the outcomes they achieved, at 6 weeks, 1 year and 7 years postoperatively. The Hospital Anxiety and Depression Scale was used to record psychological status. Oxford Knee Score and American Knee Society Score were used to record the functional status postoperatively and at all follow up time points.

46 (44%) of the patients had an abnormal pre-operative anxiety and/or depression score. Mean anxiety and depression scores improved at 6 weeks and 1 year follow up, but then deteriorated slightly after 7 years, albeit not back to baseline. Knee scores showed similar patterns over time. Regardless of pre-operative psychological status, mean scores improved at 6 weeks and further improved at 1 year post op. They then showed slight deterioration at 7 years, but remained significantly better than pre-op.

Psychological distress is common in our patients pre-operatively. Improvements in knee pain and function as a result of surgery correlate well with lower levels of psychological distress post-operatively. Knee replacement surgery positively influences all of the outcome measures studied rather than recovery being negatively influenced by pre-operative states. Knee replacement arthroplasty is not contra-indicated by pre-operative psychological distress. Successful knee replacement improves knee pain and function, as well as symptoms of anxiety and depression. These improvements persist for many years after the surgery.

### 0032 – IDENTIFYING PRE-OPERATIVE NEUROPATHIC PAIN AS A MARKER OF POOR OUTCOME FOLLOWING KNEE REPLACEMENT SURGERY.

**Anushka Soni**

The University of Nottingham, Nottingham, UK, 2SM I, Aalborg University, Aalborg, Denmark

**Purpose:** To explore whether patients with knee osteoarthritis (KOa) undergoing primary knee replacement have pre-existing neuropathic pain and persistent post-surgical pain (PPSP). This study compared the outcome following arthroplasty in patients with and without neuropathic pain pre-operatively.

**Methods:** Patients with KOA, awaiting arthroplasty, were recruited. The modified PainDETECT score was used to identify nociceptive (<13), unclear (13-28) and neuropathic pain (>18), and was the predictor variable. Oxford Knee Score (OKS) was the primary outcome variable. Regression modeling was used to test the difference in OKS for each pain group, adjusting for age, sex and BMI. The analyses were replicated in a larger, independent, validation cohort.

**Results:** 120 patients were recruited to the study cohort: 63 (52.5%) had nociceptive pain; 32 (26.7%) had unclear pain; and 25 (20.8%) had likely neuropathic pain. The validation cohort comprised 384 patients with pre-operative and 12-month post-operative data. In the study cohort, patients with neuropathic pain had significantly worse OKS at baseline compared to the nociceptive group: (20.5 (7.3) versus 13.1 (5.3), p<0.001). This persisted 2 months post-operatively: OKS 32.0 (18.0-41.0) versus 39.0 (29.0-43.0), p<0.05. The validation cohort showed that 12-months post-operative OKS was significantly worse in the neuropathic group: 37.0 (25.0-43.0) versus 44.0 (38.0-50.0), p<0.05. The modified PainDETECT score was the most powerful predictor of outcome.

**Conclusion:** Neuropathic pain is associated with significantly worse outcomes at 2 and 12-months post-operatively, and may be improved by the utilisation of targeted therapy peri and post-operatively.
ponent rotation >3°IR. There was no difference in tibial or femoral component malalignment in painful versus well functioning TKAs. Tibial component IR is a common find-

ing in well-functioning TKAs and its significance when evaluating the painful TKA should be interpreted with caution.

**14:50 - Session 5 Moderators: Sanjeev Anand & Richard Parkinson**

**0146 – KNEE ARTHROPLASTY IN PATIENTS PREVIOUSLY TREATED WITH AUTOLOGOUS CHONDROCYTE IMPLANTATION**

Emile Schutgens, David Chou, Geoffrey chimney, John Skinner, Timothy Briggs
Royal National Orthopaedic Hospital, Stanmore, UK

Autologous chondrocyte implantation and matrix assisted chondrocyte implantation (ACI/MACI) are well-established methods of treating symptomatic osteochondral defects in the knees of young patients. Despite advances in this technique, there remains a failure rate. Overall, ACI/MACI can be seen as a method of delaying the need for joint arthroplasty. Controversy remains, as ACI/MACI may in some way influence TKA should be interpreted with caution.

A retrospective analysis was performed of 41 patients (mean age 38, range 21 – 56) treated with knee arthroplasty following a failed ACI/MACI (24/17). Sit-eD normalised maximum force through the operated knee was 4.58 (0.55) and 4.83 (0.83) N/kg respectively. Gait velocity was 0.92 (0.28) and 1.12 (0.29) m/sec. The median (IQR) 12 month OKS was 41.5 (21.0) and 39.0 (9.0), KOOS ADL scores were 82.4 (52.2) and 88.2 (23.5) and EQ5D VAS scores were 69.0 (28.5) and 85.0 (19.0).

**Conclusions:** Mean flexion at 12 months was marginally lower (-3.1, p=0.595) in the CR150 group but the CR150 performed slightly better over a range of functional measures.

**0106 – TRENDS IN THE OXFORD KNEE SCORE FOLLOWING MEDIAL-OPENING WEDGE HIGH TIBIAL OSTEOTOMY & THE IMPACT OF KELLGREN-LAWRENCE GRADE**

Sam Yasen, Harry Palmer, David Elson, Matt Dawson, Chris Wilson, Adrian Wilson
1Hampshire Hospitals NHS Trust, Basingstoke, UK, 2Cardiff & Vale University Health Board, Cardiff, UK, 3North Cumbria University Hospitals NHS Trust, Carlisle, UK

Background: Outcomes following medial opening wedge high tibial osteotomy (HTO) have been demonstrated to show significant improvement post-operatively. Trends in the change to outcome scores over time, and the impact of preoperative severity of arthritis, as documented by the radiographic Kellgren-Lawrence (KL) grade, have not previously been examined.

**Methods:** A series of 528 medial opening wedge HTOs were performed at three participating centres (Basingstoke, Cardiff and Carlisle), between June 2001 and June 2014 with a follow up of 6 months to 12.2 years. Our local osteotomy database was interrogated for postoperative outcomes scores and correlated against preoperative KL grade. Changes in the Oxford Knee Score (OKS) at six months, one year, two years, three years and four years post-operatively were examined using statistical one-way ANOVA testing.

**Results:** (1) Medial-opening wedge HTO significantly improves OKS post-operatively (N=371, p=0.000) with a mean improvement of 11.5 points. (2) Subsequent changes after six months do not return a statistically significant result: one year (N=228, p=0.071), two years (N=139, p=0.861), three years (N=131, p=0.806) and four years (N=88, p=0.553). (3) There is no significant relationship between OKS and KL grade at all time points: six months (N=219, p=0.146), one year (N=194, p=0.320), two years (N=131, p=0.937), three years (N=101, p=0.933) and four years (N=62, p=0.536).

**Conclusion:** Improvement in OKS is independent of severity of KL grade at all time points postoperatively in medial opening wedge HTO. Outcome scores improve by 6 months irrespective of preoperative severity of arthritis, following which improvements are not statistically significant.

**0158 – OXFORD DOMED LATERAL PARTIAL KNEE REPLACEMENT: UPTO 10 YEAR FOLLOW-UP. AN INDEPENDENT SINGLE SURGEON SERIES**

Simon Newman, Helen Alsop, Justin Cobb
Imperial College London, London, UK

**Introduction:** The Oxford Domed Lateral Partial Knee Replacement (ODLPKR) was designed with a convex tibial surface and mobile bicovex polyethylene bearing to overcome the unacceptable dislocation rate associated with the use of the Oxford Patellar Knee Replacement in the lateral compart-ment. We present the first up to 10 year results from an independent,
single surgeon practice.

**Methods:** Between 2005 and 2009 the senior author performed 64 ODLPKR on 58 patients for isolated lateral compartment osteoarthritis with a functionally intact anterior cruciate ligament (ACL). Patients were reviewed in the clinic or contacted by telephone to determine the status of their implant and their level of function using the Oxford Knee Score (OKS).

**Results:** The status of 61 of the 64 knees was confirmed with a mean follow-up period of 80.6 months (range 24-120 months). Five patients had died with no further surgery performed. Three patients had dementia and were unable to complete the OKS but had not undergone further surgery. One patient sustained a bearing dislocation on two occasions following falls necessitating open reductions. Two patients underwent conversion to total knee replacement, one for septic arthritis and one for pain. Five further patients reported further operations: one bearing exchange for instability, two medial partial replacements, one ACL reconstruction and one arthroscopy for haemarthrosis. Mean OKS was 24 (range 9-36) pre-operatively and 40 (10-48) at final follow-up.

**Conclusion:** The ODLPKR offers an effective treatment for lateral compartment osteoarthritis. Bearing dislocation does not appear to be a significant issue with this implant.

**0144 – VIRTUAL CLINIC FOLLOW-UP OF HIP AND KNEE REPLACEMENT: A PATIENT SURVEY**

Laura McArthur, Gabriel Fieraru, Dan Williams
Royal Cornwall Hospitals NHS Trust, Cornwall, UK

**Background:** With support from the Health Foundation, we established a virtual clinic service to follow up hip and knee replacement patients—see www.youtube.com/watch?v=0jcbytfSook. Here we report the results of a patient survey.

**Method:** Consecutive patients who used the virtual clinic between February and June 2015 (n=113) were invited to complete an online questionnaire via SurveyMonkey about their experience of the new service; 46 (41%) completed the survey.

**Results:** 79% of patients thought the care was either very good or good. 70% took less than ten minutes to complete the online assessment and the rest (30%) completed it within twenty minutes. 70% found the virtual clinic quicker and easier than attending a face-to-face appointment, 9% found it much harder. All of the respondents reported having an x-ray at a location of their choice, of which 100% reported the time convenient and 98% the time convenient. All users rated the clarity of the instructions to access the virtual clinic as acceptable with 90% rating it as good or very good. 40% of patients saved travel costs and 22% saved on parking fees. 33% of patients missed the personal interaction but only 12% of people wouldn’t have a virtual clinic appointment instead of a face-to-face appointment in the future.

**Discussion:** Patient service users found this new service effective, quick and easy but missed the personal interaction.

**Conclusion:** Virtual clinic follow up might not suit everyone but could contribute to robust, cost-effective follow up in line with BOA guidelines.

**0142 – VIRTUAL CLINIC FOLLOW-UP OF PRIMARY JOINT REPLACEMENT PATIENTS**

William Reeve, Laura McArthur, Dan Williams
Royal Cornwall Hospitals NHS Trust, Cornwall, UK

**Background:** BOA guidelines recommend follow up of each of the 160,000 hip and knee joint replacement patients performed each year at one, seven and every subsequent three years following surgery. Traditionally carried out via a face-to-face appointment checking a set of questions and an x-ray film, it costs £50 million to follow up just one year of hip replacement patients. With support from the Health Foundation, we aimed to improve the efficiency of this high volume system using web based technology to collect patient reported outcomes and digital x-ray films, without compromising quality or patient acceptability.

**Method:** We report the headline statistics of a virtual clinic service that replaces two face-to-face appointments with five virtual clinic appointments; see www.youtube.com/watch?v=0jcbytfSook.

**Results:** Three hundred patients were followed up in a virtual clinic during the first 11 months of the new service with 520 additional patients choosing the new service for their future follow up. There was a 0% DNA rate with high levels of patient satisfaction. However, only 21% of slots were filled and use varied from 6 to 54% across our surgical teams.

**Discussion:** A CQUIN to the value of £216,000 is in place to support the new service into its second year. Further work is required to standardise follow up practice across all surgical teams and ensure appropriate training is available to everyone involved to optimise the use of this innovation.

**Conclusion:** Early data from this new service is encouraging with high levels of patient satisfaction and pro-active commissioner support.

**0143 – THE INFLUENCE OF DESIGN OF PATIENT SPECIFIC INSTRUMENTATION ON ACCURACY OF PLACEMENT IN UNICOMPARTMENTAL KNEE REPLACEMENT**

Simon Newman, Susannah Clarke, Simon Harris, Justin Cobb
Imperial College London, London, UK

**Introduction:** The influence of guide design on the accuracy of placement of Patient Specific Instrumentation has received little attention.

**Methods:** A standard anatomy tibial Sawbone was selected for use in the study and a computed tomography scan obtained to facilitate the production of PSI. A control PSI guide with similar dimensions to the Oxford Phase 3 UKR tibial guide was produced, contoured to the anterior tibial surface with multiple studs on the tibial contact surface. Five variants of this guide were designed to assess the impact of design features on accuracy. All guides were designed with an appendage that facilitated direct attachment to a navigation machine. 36 volunteers were recruited to place each guide on the tibia. The navigation machine recorded deviations from the plan in respect of proximal-distal and medial-lateral translations as well as rotation around all three axes.

**Results:** Contact points in greater than one plane led to a trend for increasing accuracy and precision of PSI guide placement with respect to rotational alignment, this achieved statistical significance relative to the control guide with a guide that included articular and distal contact points (p<0.009). No significant differences were found with respect to translation. Changes in contact area within the same plane and the use of smooth or studded contact points made no significant difference to accuracy.

**Conclusions:** PSI guide design significantly impacts on the accuracy of placement. PSI guides for UKR should endeavour to include widely separated reference points in different planes to maximise rotational accuracy.

Authors of the Podium Presentations have submitted an E-Poster of their presentation which can be viewed on the screens within the exhibition area (Hall 2a)
British Association for Surgery of the Knee
ANNUAL GENERAL MEETING
Wednesday 30th March 2016 – Liverpool

1. Apologies
2. Minutes of BASK AGM, Telford 2015
3. Presidents Report
5. Research Committee A Price
6. Education Report A Porteous
7. Webmasters Report D Johnson
8. Treasurers Report L Biant
9. ‘The Knee’ Report C Hing
10. Secretaries Report – Elections to BASK Executive
   a Election of new members T Hui
11. Future Meetings
   a BOA Belfast
   a BASK Spring Meeting 2017 Southport
12. Any other business
<table>
<thead>
<tr>
<th>Name</th>
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The British Orthopaedic Sports Trauma & Arthroscopy Association

BOSTAA @ BASK 30th March 2016, Liverpool ACC

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<tr>
<td>8.00</td>
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<td>9.15</td>
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<td>Welcome / Introduction</td>
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<td>9.20</td>
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| 9.20      |         |          | Risks outweigh the benefits of knee arthroscopy in middle aged or older |
| Agree –  |         |          | Andy Carr                                                             |
| Disagree – |        |          | Ian Corry                                                             |

| 9.40      |         |          | Acute isolated ACL tear – Primary surgery is on the rise              |
| Agree –  |         |          | Amer Khan                                                             |
| Disagree – |        |          | Fares Haddad                                                          |

| 10.00     |         |          | BASK Free paper session                                               |

| 10.00     |         |          | A Multicentre Randomised Trial comparing total or partial knee        |

| 10.06     |         |          | Is there a relationship between outcome of TKR + hospital practice    |

| 10.12     |         |          | Learning curve with a new primary TKR implant                          |

| 10.18     |         |          | In vivo kinematics of for customised vs traditional TKR designs       |

| 10.24     |         |          | Discussion                                                            |

| 10.30     |         |          | Coffee Break                                                          |

| 10.50     | 12.30   |          | BOSTAA Keynote Lecture and Free Papers - Room 4a                      |
| Chairs: Panos Thomas and Fares Haddad |

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<tr>
<td>Fares Haddad</td>
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<td>The evaluation of outcomes after knee surgery</td>
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<td>Panos Thomas &amp; Sanjeev Anand</td>
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| Sports -Mini -Oral Poster Presentations |

| 11.22 | 2 | - |
| The effect of knee arthroscopy on c-reactive protein and erythrocyte sedimentation rate |
| Andrew Hannah, Graeme Hancock, James Stoddard, Paul Sutton (0035) |

| 11.25 | 2 | - |
| Pooler Archbold, David Milligan, Gavin Heyes, Alan Rankin, Chris Bleakley, Richard Nicholas, Roger Wilson, Lynsey Henderson, Micheal Webb (0010) |

| 11.28 | 2 | - |
| Is there any difference in unplanned admission for daycase anterior cruciate ligament reconstruction with femoral vs saphenous nerve blocks? |
| Charlotte Angel, Michael Rodger, Andrew Cattell, David Isaac, Michael Hockings (0030) |

| 11.30  | |
| Sports- Free Paper Session |

(The abstracts relating to the Free Paper Sessions are stated on pages 24 to 27)
<table>
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<th>Duration</th>
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<tr>
<td>11.32 6</td>
<td>2</td>
<td>The magnetic resonance imaging appearance of the anterolateral ligament of the knee</td>
<td>Jonathan Kosy, Rahul Anaspure, Vipul Mandalia (0013)</td>
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<td>11.40 6</td>
<td>2</td>
<td>Cell Viability and Density in Open vs Arthroscopic Autologous Chondrocyte Implantation</td>
<td>Leela Biant, Michiel Simons, Trudi Gillespie, Michael McNicholas (0058)</td>
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<td>11.48 6</td>
<td>2</td>
<td>An evaluation of the effectiveness of medial patellofemoral ligament reconstruction using an anatomical tunnel site</td>
<td>Kars Valkering, Aysha Rajeev, Nick Caplan, Willem Tuinebreijer, Deiary Kader (0006)</td>
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<td>11.56 6</td>
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<td>Meniscal allograft transplantation provides good survivorship and outcomes: an analysis of 132 cases</td>
<td>Benjamin Bloch, Nick Smith, Laura Asplin, Tim Spalding (0042)</td>
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<td>12.04 6</td>
<td>2</td>
<td>Anterior cruciate ligament injury and the risk of primary total knee replacement for osteoarthritis: a matched case control study using the clinical practice research datalink</td>
<td>Tanvir Khan, Abtin Alvand, David Culliford, Andrew Judge, Daniel Prieto-Alhambra, Brigitte Scammell, Nigel Arden, Andrew Price (0097)</td>
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<td>12.20 6</td>
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<td>Meniscal scaffold mid-term outcomes</td>
<td>Ioannis Pengas, Nick Smith, Ben Parkinson, Laura Asplin, Pete Thompson, Tim Spalding (0161)</td>
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<td>13.00</td>
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<td>Tim Wilton – BOA President ‘Outlook from the BOA Offices’</td>
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<td>14.00</td>
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<td>Clare Marx – President of RCS Eng.</td>
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<td>Instructional course lecture: – Room 4a</td>
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<td>14.30</td>
<td>8 2</td>
<td>Panos Gikas: 10 things to avoid when treating Chondral lesions</td>
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<tr>
<td>14.40</td>
<td>8 2</td>
<td>James Robinson: 10 things to avoid when treating Meniscal Lesions</td>
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<td>14.50</td>
<td>8 2</td>
<td>Mike Carmont: 10 things to avoid when treating Tendinopathy</td>
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<td>15.00</td>
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<td>Tony Hui: 10 things to avoid when treating ACL instability</td>
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<td>15.10</td>
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<td>Rahul Patel: 10 things to avoid when treating PCL instability</td>
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<td>15.20</td>
<td>8 2</td>
<td>Simon Ball: 10 things to avoid when treating Multiligament Instability</td>
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<td>15.30</td>
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<td>Deiary Kader: 10 things to avoid when treating Patellar instability</td>
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<td>Coffee Break</td>
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<td>BOSTAA Keynote Lecture and Sports Free Papers – Room 4a</td>
<td>Chairs: Mike Carmont and Michael Dobson</td>
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<td>16.00</td>
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<td>Keynote Lecture</td>
<td>Andy Williams</td>
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<td>The Key Success in ACL Reconstruction: Addressing peripheral Lesions</td>
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<td>Sports- Mini -Oral Poster Presentations</td>
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<td>16.21 2</td>
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<td>Combined Anterior Cruciate Ligament Reconstruction (ACL) with Knee Realignment Osteotomy – Results up to Five Years</td>
<td>Sam Yasen, James Smith, Ed Britton, Harry Palmer, Mike Risebury, Adrian Wilson (0108)</td>
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(The abstracts relating to the Free Paper Sessions are stated on pages 24 to 27)
16.24 2 - The use of extra articular stabilisation in primary ACL surgery in a high demand athletic population with high grade pivot shift test; a cohort study
Sujith Konan, Yusuf Mirza, Albert Ngu, Fares Haddad (0145)

16.27 2 - Lateral intercondylar ridge: is it a reliable landmark for femoral ACL insertion?: an anatomical study
Rahul Bhattacharyya, Andrew Ker, Quentin Fogg, Simon Spencer, Jibu Joseph (0087)

16.30 2 - A retrospective multicentre review of chondrotissue® use for chondral injury in the knee
Morgan Bayley, Angus Robertson, Robert Yate (0102)

16.34 2 
Sports Free Paper Session – Room 4a

16.34 6 2 Algorithmic approach to revision ACL reconstruction: mid term outcomes
S Konan, YH Mirza, RJ Tansey, FS Haddad (0125)

16.42 6 2 Biotribology of osteochondral grafts in the knee
Philippa Bowland, John Fisher, Eileen Ingham, Louise Jennings (0072)

16.50 6 2 A series of cases of foreign body reaction and synovitis after soft tissue knee reconstruction using LARS ligament.
Mike Rodger, Andrew Lee (0026)

16.58 6 2 Comparative clinical study of autograft vs synthetic graft patellofemoral ligament (MPFL) reconstructions
Paul Y F Lee, Abhishek Sharma, Amit Chandratreya (0101)

17.06 6 2 Are Xenograft Tendons a Viable Alternative for Knee Ligament Reconstruction? A Biomechanical Study of Bovine Tendons Treated with a Novel Processing Method
Henry Colaco, Breck Lord, Zameer Shah, Diane Back, Andrew Davies, Andrew Amis, Adil Ajuied (0089)

17.14 6 2 Can balance be improved with a simple home based training programme? A prospective randomised controlled trial
Angela McGowan, Laura Derbyshire, Lee Herrington, David Johnson (0048)

17.22 6 2 The use of the macintosh procedure in revision acl reconstruction surgery; early to mid term results: a cohort study
S Konan, YH Mirza, AWT Ngu, FS Haddad (0157)

END OF BOSTAA PROGRAM

17.30 BASK AGM – Room 3 – All Members of BASK are invited to attend

17.30 Arthrex - "Cadaveric Demonstration" Live link in Room 4a - Limited spaces available
Please visit Arthrex on their stand no. 8 to request an invitation

19.30 BASK Association Dinner – Town Hall, Liverpool – Entrance by ticket only

BOSTAA 31st March 2016 – Room 3

14.10 BOSTAA ACI Debate & Focus on meniscal allograft transplantation - Room 3
Chair: Simon Roberts

ACI is a waste of money
Agree – Rhidian Thomas
Disagree – Leela Biant

14.30 Focus on meniscal allograft:
Meniscal allograft transplantation in 2016: Where are we now? Tim Spalding
Reflections on long term outcome data Katherine Van Der Straeten

(The abstracts relating to the Free Paper Sessions are stated on pages 24 to 27)
BOSTAA Poster & Podium Presentations
WEDNESDAY 30th March
10.50 to 12.30 (Morning)

Sports – Mini Oral Poster Presentations

0035 – THE EFFECT OF KNEE ARTHROSCOPY ON C-REACTIVE PROTEIN AND ERYTHROCYTE SEDIMENTATION RATE
Andrew Hannah, Graeme Hancock, James Stoddard, Paul Sutton
Northern General Hospital, Sheffield, South Yorkshire, UK

Pooler Archbold1, David Milligan1, Northern General Hospital, Sheffield, South Yorkshire, UK
0006 – AN EVALUATION OF THE EFFECTIVENESS OF MEDIAL PATELLOFEMORAL LIGAMENT RECONSTRUCTION USING AN ANATOMICAL TUNNEL SITE
Kars Valkering1, Aysha Rajeev2, Nick Caplan3, Willem Tuinebreijer4, Deiary Kader5
1South West London Elective Orthopaedic Centre, Epsom, Surrey, UK, 2Queen Elizabeth Hospital, Gateshead, Tyne and Wear, UK, 3Faculty of Health and Life Sciences, Northumbria University, Newcastle upon Tyne, Tyne and Wear, UK, 4Red Cross Hospital, Beverwijk, The Netherlands, 5Orthopedium, Delft, The Netherlands

Sports – Free Paper Session

0013 – THE MAGNETIC RESONANCE IMAGING APPEARANCE OF THE ANTEROLATERAL LIGAMENT OF THE KNEE
Jonathan Kosy, Rahul Anasupure, Vipul Mandalla
Royal Devon and Exeter Hospital, Exeter, UK

Objective: Previous studies, using magnetic resonance imaging (MRI) to characterise the anterolateral ligament (ALL), have been inconsistent. Our study aimed to define the normal appearance of this structure as a baseline to further work on injury patterns.

Materials and Methods: Following approval from an Institutional Review Board, 154 consecutive, retrospective cases were studied. In each case, 1.5T MRI studies were reviewed by a consultant musculoskeletal radiologist. Following exclusions (lateral compartment or cruciate injury and patients under 16 years) 100 MRIs (98 patients; 63 males: 35 females; mean age 45.3 years (range 16-85)) were studied.

Results: The ALL was clearly seen in 94.0% of the cases with the whole length visualised in 57.0% of the cases. This was similar to previous descriptions with a thickness of 1.75 ± 0.57mm. The tibial insertion (7.64 ± 1.26mm below the joint-line) and meniscal attachment were demonstrated in all cases where the ligament was seen. The femoral origin was seen arising from the lateral epicondyle in 57.0% of cases but, when not seen, a more horizontal insertion from the lateral epicondyle was seen in 33.0% of cases.

Conclusion: In the majority of studies, of the uninjured knee, the tibial and meniscal portions of the ALL are clearly seen. Attachment to the lateral epicondyle in 57.0% of cases but, when not seen, a more horizontal insertion from the lateral epicondyle was seen in 33.0% of cases. The ALL is technically more challenging to perform adequately lesion debridement and implantation of cell-membrane constructs arthroscopically. Arthroscopic ACI has the theoretical advantages of quicker rehabilitation and avoiding drying damage to remaining cartilage.

Aim: To assess the number and viability of cells on ACI membranes when the constructs are implanted via mini-arthroscopy vs arthroscopically.

Methods: Sixteen 2x2 femoral condyle articular cartilage defects were created in young cadaver knees. Eight cadaver ACI surgeries were performed via mini-arthroscopy and 8 completed arthroscopically by two experienced cartilage repair surgeons using membranes loaded with human reference-line cells. Knees were opened and the retrieved membranes stained with 5-chloromethylfluorescein diacetate (stains cytoplasm of live cells) and propidium iodide (stains nuclei of dead cells). Samples were imaged using Confocal Laser Scanning Microscopy in 5 consistent zones to assess cell viability and density.

Results: The open surgery had significantly shorter duration. There were significantly more cells and more viable cells on the membranes implanted by via mini-arthroscopy. At the membrane edge (where integration to host cartilage must occur) there were fewer dead cells on the constructs delivered by the open technique.

Conclusion: There more cells, more viable cells and a shorter duration of surgery when ACI is performed via mini-arthroscopy than arthroscopically. The absolute number of cells required to effect cartilage repair is unknown.

0006 – AN EVALUATION OF THE EFFECTIVENESS OF MEDIAL PATELLOFEMORAL LIGAMENT RECONSTRUCTION USING AN ANATOMICAL TUNNEL SITE
Kars Valkering1, Aysha Rajeev2, Nick Caplan3, Willem Tuinebreijer4, Deiary Kader5
1South West London Elective Orthopaedic Centre, Epsom, Surrey, UK, 2Queen Elizabeth Hospital, Gateshead, Tyne and Wear, UK, 3Faculty of Health and Life Sciences, Northumbria University, Newcastle upon Tyne, Tyne and Wear, UK, 4Red Cross Hospital, Beverwijk, The Netherlands, 5Orthopedium, Delft, The Netherlands

Purpose: Medial patellofemoral ligament (MPFL) reconstruction for recurrent patellar instability has gained popularity and anatomical and biomechanical studies have recently altered our operative techniques. The aim of this study is to report the clinical outcome of this new anatomical MPFL reconstructive technique and investigate whether correlating factors can be identified.

Methods: Between April 2009 and November 2012, a total of 31 consecutive patients underwent MPFL reconstruction using an autologous gracilis graft and anatomical tunnel placement. Pre- and post-operative data were collected as a part of routine clinical practice. The preoperative assessment included a rotational profile CT scan of the lower extremity according to the Lyon protocol with TT-TG distance measurement. Outcomes were evaluated with the Kujala and Norwich patella instability (NPI) scores preoperatively and at follow-up (1.5-5.1 years).

Results: A significant improvement of both the Kujala (p<0.001) and NPI (p=0.012) scores was recorded. A medium and large negative correlation were found between TT-TG distance and Kujala score improvement (r(1)= -0.482, p=0.020) and NPI score improvement (r(1)= -0.825, p=0.042), respectively. Multiple regression analysis identified TT-TG distance, Beighton score and BMI as factors explaining the variance of Kujala score improvement.

Conclusion: Anatomical MPFL reconstruction with the gracilis autograft for patellar instability results in good outcome. With a precise preoperative work-up, factors can be identified that may guide selecting the optimal operative strategy and improve counseling of the patient.

0058 – CELL VIABILITY AND DENSITY IN OPEN VS ARTHROSCOPIC AUTOLOGOUS CHONDROCYTE IMPLANTATION
Leela Biant1, Michiel Simons2, Trudi Gillespie1, Michael McNicholas2
1University of Edinburgh, Edinburgh, UK, 2University of Liverpool, Liverpool, UK

Background: Autologous chondrocyte implantation (ACI) is an established cartilage repair technique. Cell viability is reduced by handling and manipulation of the implant. It is technically more challenging to perform adequately lesion debridement and implantation of cell-membrane constructs arthroscopically. Arthroscopic ACI has the theoretical advantages of quicker rehabilitation and avoiding drying damage to remaining cartilage.

Aim: To assess the number and viability of cells on ACI membranes when the constructs are implanted via mini-arthroscopy vs arthroscopically.

Methods: Sixteen 2x2 femoral condyle articular cartilage defects were created in young cadaver knees. Eight cadaver ACI surgeries were performed via mini-arthroscopy and 8 completed arthroscopically by two experienced cartilage repair surgeons using membranes loaded with human reference-line cells. Knees were opened and the retrieved membranes stained with 5-chloromethylfluorescein diacetate (stains cytoplasm of live cells) and propidium iodide (stains nuclei of dead cells). Samples were imaged using Confocal Laser Scanning Microscopy in 5 consistent zones to assess cell viability and density.

Results: The open surgery had significantly shorter duration. There were significantly more cells and more viable cells on the membranes implanted by via mini-arthroscopy. At the membrane edge (where integration to host cartilage must occur) there were fewer dead cells on the constructs delivered by the open technique.

Conclusion: There more cells, more viable cells and a shorter duration of surgery when ACI is performed via mini-arthroscopy than arthroscopically. The absolute number of cells required to effect cartilage repair is unknown.

0042 – MENISCAL ALLOGRAFT TRANSPLANTATION PROVIDES GOOD SURVIVORSHIP AND OUTCOMES: AN ANALYSIS OF 132 CASES
Benjamin Bloch1, Nick Smith2, Laura Asplin3, Tim Spalding3
1Nottingham University Hospitals NHS Trust, Nottingham, UK, 2University Hospitals Coventry & Warwickshire NHS Trust, Coventry, UK

Pain following a meniscectomy is a recognised problem, particularly in young patients. Meniscectomy also predisposes patients to developing OA and increases the risk of requiring a TKA compared to the meniscectomised knee.

Meniscal Allograft Transplantation (MAT) is a recognised surgical technique to restore function and relieve pain in the meniscal deficient knee. We present the clinical outcomes and survivorship of 132 MATs with at least 1 year follow-up (range 1-10).

Authors of the Podium Presentations have submitted an E-Poster of their presentation which can be viewed on the screens within the exhibition area (Hall 2a)
Of the 132 MATs, 70 had good chondral surfaces. 52 patients had an iso-aggressive disease of the synovium with a significant rate of recurrence. We present the largest single-centre experience of knee PVNS in the literature.

Background: There is an established association between ACL rupture and an increased risk of knee osteoarthritis (OA) 10-20 years following injury. However, there is limited evidence of the progression to end-stage OA post ACL rupture. The aim of this study was to investigate whether ACL injury (ACLi) increases the risk of developing end-stage OA requiring Total Knee Replacement (TKR).

Methods: A matched case-control study of all TKRs performed in the UK between 1991 and 2011 and recorded in the CPRD was undertaken. The CPRD contains longitudinal data on approximately 3.6 million patients from over 480 general practices. Two controls (control group) were selected for each case of TKR (case group) matched on age, sex and general practice. Individuals with inflammatory arthritis were excluded. The odds of having TKR for individuals with a CPRD-recorded diagnosis of ACLi were compared to those without ACLi using chi-squared analysis and conditional logistic regression. This was adjusted for BMI, previous fractures around the knee and meniscal injury.

Results: In the 20-year period, 50867 individuals had a TKR recorded in the CPRD (104,481 controls). 162 individuals in the case group had an ACLi compared to 41 controls (p<0.05). The adjusted odds ratio of having a TKR after ACLi was 8.36 (95% confidence interval: 5.02-13.92) compared to those without ACLi.

Discussion: This study demonstrates that ACL injury is a significant risk factor for developing end-stage OA, using TKR as a surrogate marker. Future work should determine the effect of ACL reconstruction on risk of developing end-stage OA.

TKR. The surgical complication rate was 9.7% and 62% were pain free with full range of motion at follow-up.

Conclusion: PVNS can be difficult to treat and affects the knee in more than half of cases. We found a higher risk of recurrence with arthroscopic treatment of DPVNS, compared to open synovectomy. We would recommend open synovectomy for the treatment of DPVNS.

Discussion: Pigmented villonodular synovitis (PVNS) is known to be difficult to treat and affects the knee in more than half of cases. We found a higher risk of recurrence with arthroscopic treatment of DPVNS, compared to open synovectomy. We would recommend open synovectomy for the treatment of DPVNS.


Results: 214 cases of knee PVNS were identified, with histological diagnosis, which represented 53.4% of all PVNS at our centre. 100 were localised PVNS (LPVNS), 114 diffuse PVNS (DPVNS) and 2 malignant villonodular synovitis. 188 were primary cases and 26 had already been treated at another institution. Knee PVNS was more common in females, mean age of 39. The most common location of LPVNS was Hoffa’s pad. Following surgery, 47.6% had recurrence with DPVNS as opposed to 8.6% with LPVNS. In LPVNS, there was no difference in recurrence between open and arthroscopic synovectomy (8.7% vs 9.1%, P > 0.05). However, in DPVNS, there was a statistically significant higher risk of recurrence with arthroscopic compared to open synovectomy (83.3% vs 45.2%, P = 0.027). Sixteen patients went on to have TKR. The surgical complication rate was 9.7% and 62% were pain free with full range of motion at follow-up.

Conclusion: PVNS can be difficult to treat and affects the knee in more than half of cases. We found a higher risk of recurrence with arthroscopic treatment of DPVNS, compared to open synovectomy. We would recommend open synovectomy for the treatment of DPVNS. Meniscal scaffolds improve and maintain patient reported outcomes at 5 years. Further work should be aimed at identification of the ideal patient for optimal long term outcome and the effect on chondroprotection.

Acknowledgements: Many thanks to Harry Palmer for his statistical input.

Introduction: Pigmented villonodular synovitis (PVNS) is a rare, locally aggressive disease of the synovium with a significant rate of recurrence. We present the largest single-centre experience of knee PVNS in the literature.

Aims: To evaluate our centre’s experience in the management of knee PVNS.


Results: 214 cases of knee PVNS were identified, with histological diagnosis, which represented 53.4% of all PVNS at our centre. 100 were localised PVNS (LPVNS), 114 diffuse PVNS (DPVNS) and 2 malignant villonodular synovitis. 188 were primary cases and 26 had already been treated at another institution. Knee PVNS was more common in females, mean age of 39. The most common location of LPVNS was Hoffa’s pad. Following surgery, 47.6% had recurrence with DPVNS as opposed to 8.6% with LPVNS. In LPVNS, there was no difference in recurrence between open and arthroscopic synovectomy (8.7% vs 9.1%, P > 0.05). However, in DPVNS, there was a statistically significant higher risk of recurrence with arthroscopic compared to open synovectomy (83.3% vs 45.2%, P = 0.027). Sixteen patients went on to have TKR. The surgical complication rate was 9.7% and 62% were pain free with full range of motion at follow-up.

Conclusion: PVNS can be difficult to treat and affects the knee in more than half of cases. We found a higher risk of recurrence with arthroscopic treatment of DPVNS, compared to open synovectomy. We would recommend open synovectomy for the treatment of DPVNS. Meniscal scaffolds improve and maintain patient reported outcomes at 5 years. Further work should be aimed at identification of the ideal patient for optimal long term outcome and the effect on chondroprotection.

Acknowledgements: Many thanks to Harry Palmer for his statistical input.
Sports — Mini Oral Poster Presentations

0108 – COMBINED ANTERIOR CRUCIATE LIGAMENT RECONSTRUCTION (ACL) WITH KNEE REALIGNMENT OSTEOTOMY – RESULTS UP TO FIVE YEARS
Sam Yassen, James Smith, Ed Britton, Harry Palmer, Mike Risebury, Adrian Wilson
Hampshire Hospitals NHS Trust, Basingstoke, UK

0145 – THE USE OF EXTRA ARTICULAR STABILISATION IN PRIMARY ACL SURGERY IN A HIGH DEMAND ATHLETIC POPULATION WITH HIGH GRADE PIVOT SHIFT TEST: A COHORT STUDY
Sujiith Kona, Yusuf Mirza, Albert Ngu, Fares Haddad
University College Hospital, London, UK

0087 – LATERAL INTERCONDYLAR RIDGE: IS IT A RELIABLE LANDMARK FOR FEMORAL ACL INSERTION?: AN ANATOMICAL STUDY
Rahul Bhattacharyya1, Andrew Ker2, Quentin Fogg3, Simon Spencer1, Jibu Joseph1
1Department of Human Anatomy, University of Glasgow, Glasgow, UK,
2Queen Elizabeth University Hospital, Glasgow, UK,
3Royal Alexandria Hospital, Paisley, UK

0102 – A RETROSPECTIVE MULTICENTRE REVIEW OF CHONDROTISSUE® USE FOR CHONDRAL INJURY IN THE KNEE
Morgan Bayley1, Angus Robertson1, Robert Yate3
1Glangwili Hospital, Carmarthen, UK, 2University Hospital of Wales, Cardiff, UK

Introduction: The aim of this study is to report our mid-term revision ACL outcomes undertaken in a consecutive series of patients using a standardised protocol.

Methods: We reviewed a consecutive series of 100 revision ACL (96 patients, 40 female, mean 32 years [18 – 38]) at minimum 2 year follow up (2 to 8 years). The choice of revision was based on an established clinical algorithm.

Results: Sixty-two cases (ACL+ group) were revised to optimal femoral tunnel positions from previously non-conventional tunnel positions. Fifteen also required new tibial tunnels. Thirty-three cases (ACL+ group) were treated with ACL reconstruction along with extra-articular augmentation (McIntosh technique). In 10 of these cases, surgery had to be staged with initial bone grafting of tunnel. The indication to undertake extra-articular augmentation was for one of the following reasons; failed ACL reconstruction despite acceptable tunnel positions, technique and rehabilitation; high demand athletes at high risk of failure; clinical signs of hyperlaxity. In 5 cases, with persistent symptoms of instability despite intact graft isolated extra-articular augmentation was undertaken. Concomitant ligament repair or reconstruction was necessary in 28 cases. At minimum 2-year follow up we report 2 clinical revisions in the ACL group and 1 in the isolated extra-articular augmentation group (97% survival). 87% returned to pre-morbid Tegner activity level. The remainder dropped activity level by one point.

Conclusion: In our series of revision ACLs for instability, we have demonstrated a high success rate using an algorithmic approach.

0072 – BIOTRIBOLOGY OF OSTEOCHONDRAL GRAFTS IN THE KNEE
Presenters: YH Mirza, RJ Tansey, FS Haddad
1University of Wales, Cardiff, UK, 2University of York, York, UK, 3Weilsh Bone, Wales, UK

Introduction: In order to deliver successful osteochondral grafts to the patient, there is the requirement to develop preclinical test methods incorporating functional tribological simulations to assess the performance of grafts in the natural knee. The study aimed to investigate the effects of graft implantation on the local tribology of the joint using a simple geometry tribological model.

Method: The coefficient of friction and wear of 12 mm diameter porcine osteochondral pins reciprocating against bovine osteochondral plates was determined. Negative controls consisted of intact osteochondral pins and plates. Positive control groups included a 6 mm stainless steel pin inserted centrally in the plate flush with the cartilage surface (n=6) and 1mm proud (n=6). Test groups included 6 mm diameter cartilage defects (n=6) and porcine xenografts (n=6) inserted centrally. Samples were tested at a stress of 1.5MPa initially for 3 hours as a negative control, and then as either, a positive control test or a test group for a further 3 hours. Wear was analysed using an Alcorna InfiniFocousmaker.

Results: Significant cartilage damage was observed in the positive control groups, wear was significantly lower in negative controls than all test groups and moderate in the cartilage defect and xenograft groups. Increased friction only correlated with increased wear in the second positive control group (steel pins). Further work is indicated.

Discussion: Analysis of wear following implantation of osteochondral defects and xenografts indicated that the local biotribology was altered, possibly attributable to differences in contact areas and edge effects.

0026 – A SERIES OF CASES OF FOREIGN BODY REACTION AND SYNOVITIS AFTER SOFT TISSUE KNEE RECONSTRUCTION USING LARS LIGAMENT
Martin Rodgers, Andrew Lee
Royal Cornwall Hospital, Cornwall, UK

A patient in his thirties developed synovitis with grade 4 chondrolysis and a stiff knee with a fixed flexion deformity between three and six years following PLC and PCL reconstruction using LARS (Ligament Augmentation and Reconstruction System, Corin). There was histological evidence of foreign body reaction, the knee was painful, swollen and stiff.

We did not use any further LARS ligaments for soft tissue reconstructions of the knee. We commenced a recall programme for all 83 patients patients who underwent a soft tissue knee reconstruction using LARS. Of those contacted, 41 replied (49%) and 16 patients had symptoms (19%) and were investigated further with XRay, MRI and arthroscopy as indicated.

We discovered a total of four patients had histologically proven synovitis with foreign body reaction (steel pins). Three of whom had life-changing symptoms: pain, swelling and stiffness with degenerate changes (3.6%). These patients had undergone various reconstructions, including a) PLC only, b) ACL and PCL, c) PCL and PLC and d) ACL, PCL and PLC. A further single case of massive bone cyst formation was noted, following ACL reconstruction using LARS (1.2%). Histology is awaited in one further case.

0101 – COMPARATIVE CLINICAL STUDY OF AUTOGRFT VS SYNTHETIC GRAFT PATELLOFEMORAL LIGAMENT (MPFL) RECONSTRUCTIONS
Paul Y Lee1, Abhishek Sharma2, Amit Chandratreya3
1Princess of Wales Hospital, Bridgend, UK, 2Cardiff University, Cardiff, UK, 3WelshBone, Wales, UK

MPFL reconstruction using synthetic tape can reduce donor site mobility compared to using the hamstring tendon. The purpose of this study is to evaluate clinical results between the autologous gracilis tendon (GT) reconstruction to fibretape (Arthex) for MPFL reconstruction with the same surgical technique. 44 consecutive patients (50 knees) presenting with objective patella-femoral instability underwent a MPFL reconstruction, isolated or associated with other surgical procedures for PF stabilization. Two PEEK bone anchors were used to secure the graft to the patella and a single PEEK interference screw was used for the femur. Autograft GT was used for the first 22 patients, 27 knees. In the following 22 patients, 23 knees Fibretape synthetic graft was used as graft. All patients were clinically and radiologically evaluated, Kujala score, Bartlett score, Modified Tegner activity rating scale, SF 12 score and Lysholm score were used to assess clinical outcome.The average follow-up in the GT group were 2.8 years, 8 male and 14 female with mean age of 22; in the synthetic group the average follow-up were 1.3 years, 7 male and 15 female with mean age of 21. No recur-
0089 – ARE XENOGRAFT TENDONS A Viable ALTERNATIVE FOR KNEE LIGAMENT RECONSTRUCTION? A BIOMECHANICAL STUDY OF BOVINE TENDONS TREATED WITH A NOVEL PROCESSING METHOD

Henry Colaco1, BREck Lord2, Zameer Shah1, Diane Back2, Andrew Davies1, Andrew Amis2, Adil Ajoudi1

1Guy’s and St Thomas’ Hospitals NHS Foundation Trust, London, UK, 2Imperial College, London, UK

Introduction: This study aims to test the time-zero in vitro biomechanical properties of bovine xenograft tendons treated with a novel proprietary low-temperature sterilisation process used to process allograft tendons.

Methods: Three groups of tendons (n=42) were tested: 15 BioCleanse® bovine (BCB), 15 fresh frozen unprocessed bovine extensor tendons (FFB), and 12 processed human allograft tibialis anterior tendons (BCA). Cross-sectional area (CSA) was measured using an alginate impression technique, and tendons were mounted in cryogenic clamps to anInstron® 5565 Materials Testing System. The 5-stage static loading protocol involved 10N preload for 1min, steady ramp to 500N over 10s, maintenance at 500N to measure creep, then ramp to failure at 10mm/s.

Results: BCB tendons displayed a higher ultimate tensile strength, with equivalent ultimate failure load, creep, and modulus of elasticity when compared to the FFB tendons (p<0.05). BCB tendons had an equivalent cross-sectional area to the BCA tendons whilst exhibiting a greater failure load, ultimate tensile strength, less creep and a higher modulus of elasticity (p<0.05). CSA was a better predictor of ultimate failure load in the BCB (R2=0.77) than FFB (R2=0.286) and BCA (R2=0.220) tendon groups.

Conclusions

The BioCleanse® process does not adversely affect the time-zero biomechanical properties of bovine xenograft tendons. Processed bovine xenograft tendons exhibit superior biomechanical characteristics when compared with processed human allograft tibialis anterior tendons. Our findings demonstrate favourable time-zero biomechanical characteristics of BioCleanse® processed bovine tendons supporting further investigation of their application as xenograft in human knee ligament reconstructive surgery.

0048 – CAN BALANCE BE IMPROVED WITH A SIMPLE HOME BASED TRAINING PROGRAMME? A PROSPECTIVE RANDOMISED CONTROLLED TRIAL

Angela McGowan1, Laura Derbyshire1, Lee Herrington2, David Johnson1

1Stockport NHS Foundation Trust, Stockport, UK, 2University of Salford, Salford, UK

Introduction: Knee injuries are associated with disability/degenerative change. Access to balance training is important in preventing injuries, but is restricted for amateur sportspeople.

Aim: Compare the effectiveness of 3 home-based balance training programmes.

Methods: Healthy individuals were recruited. Each had an initial balance assessment measuring BiodyneSD Postural Stability Index (PSI) / Limits of Stability Test (LOS); and Star Excursion Balance Test (SEBT). Participants were randomised to a control group or one of three interventions (physiotherapist taught exercises; home-exercise sheet; Nintendo®WiiTM/WiiTM Fit balance board). After 6 weeks the balance assessment was repeated by an assessor blinded to the allocation.

Results: Of 185 randomised, 157 completed the study; 41 males /116 females; mean age 43.4 years (range 19-75); mean BMI 25.1 (range 18.1-30.9). There was no significant difference between groups with respect to sex, age, BMI, or Tegner/UCLA activity scores. All measures improved (p<0.01) in the intervention groups combined and in the controls. Except for PSI, improvement was greater in the intervention groups combined compared to the controls (SEBT p<0.01). All individual groups improved (p<0.01) for all assessments, except PSI in the home-exercise sheet group. The physiotherapist taught exercise group gained greatest improvement for PSI (vs exercise sheet p=0.026) and SEBT (vs control p<0.001); with the Nintendo® group improving vs control (p=0.048) for SEBT.

Discussion: A home-based balance training programme may improve balance. Results are best in a taught programme, but can be achieved other ways. Our study paves the way for a study into injury prevention in amateur sports.

0157 – THE USE OF THE MACINTOSH PROCEDURE IN REVISION ACL RECONSTRUCTION SURGERY; EARLY TO MEDIUM TERM RESULTS: A COHORT STUDY

5Koran, YH Mirza, AWT Ng, FS Haddad University College Hospital, London, UK

Introduction: The Macintosh extra-articular augmentation procedure forms an important tool in the armamentarium of the surgeon faced with the patient with failed ACL reconstruction. We describe an age and sex matched cohort study of the early to medium term follow up of the use of the Macintosh procedure as part of revision ACL surgery.

Methodology: 159 patients were identified, over a 10 year period from 2000 to 2013. 53 patients underwent revision ACL and Macintosh augmentation whilst a further 106 matched controls underwent revision ACL reconstruction alone. All had failed ACL reconstruction with pivot shift phenomenon upon clinical examination. 127 patients (80%) underwent allograft reconstruction, 24 patients (15%) underwent autograft reconstruction using hamstring tendon harvest and 8 patients (5%) BTB. All had clinical and functional outcomes including the modified Lysholm and Tegner scoring system.

Results: At minimum follow up 2 years (range 2 to 13), all returned to activities within 1 Tegner scale. There was no positive pivot shift phenomenon on clinical examination in any patient. 98% (n=51) of with Macintosh augmentation reported instability to be “never” or “rare” upon Lysholm Tegner scoring compared to 89% (n=94) of those without Macintosh augmentation reported instability to be “never” or “rare” upon Lysholm Tegner scoring. 127 patients (80%) underwent allograft reconstruction, 24 patients (15%) underwent autograft reconstruction using hamstringtendon harvest and 8 patients (5%) BTB. All had clinical and functional outcomes including the modified Lysholm and Tegner scoring system.

Conclusion: The Macintosh procedure forms an important adjunct in the prevention of anterolateral instability in revision ACL surgery with patients reporting good scores at 2 years.

Authors of the Podium Presentations have submitted an E-Poster of their presentation which can be viewed on the screens within the exhibition area (Hall 2a)
# ACPA ANNUAL MEETING

**WEDNESDAY 30TH MARCH THURSDAY 31ST MARCH 2016**  
**VENUE: ACC, LIVERPOOL**

## PROGRAMME

### WEDNESDAY 30TH MARCH AM

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<td>9.20</td>
<td><strong>BASK – Room 3</strong></td>
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<td>10.00</td>
<td>ACPA Welcome and Introduction – <strong>Room 4b</strong></td>
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<td>Complex Patient session: Chair Cathy Armstrong</td>
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<td>10.10</td>
<td>Managing joint replacement in patients with Alkaptonuria</td>
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<td>Mr J S Davidson</td>
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<td>Coffee</td>
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<td><strong>ACPA Complex Patients Session continued – Room 4b</strong></td>
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<td>The consent process with patients who have learning difficulties: A case study.</td>
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<td>Mr S Kalra</td>
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<td>11.10</td>
<td>The role of the Therapists with patients who have learning difficulties: continuation of a case study.</td>
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<tr>
<td>11.30</td>
<td>The role of the Independent Mental Capacity Advocate with patients who have learning difficulties</td>
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<td>Jeanette Abendstern</td>
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<td>12.00</td>
<td>Ankle Arthroplasty</td>
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<td>Tariq Karim</td>
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<td>12.25</td>
<td><strong>BASK:</strong></td>
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<td>Tim Wilton BOA President</td>
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<td>13.00</td>
<td>Lunch</td>
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### WEDNESDAY 30TH: MARCH PM

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<tr>
<td>14.00</td>
<td><strong>BASK – Room 3</strong></td>
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<td></td>
<td>Clare Marx: President RCS Eng</td>
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<td>14.40</td>
<td>ACPA Competency session: Chair Jill Pope – <strong>Room 4b</strong></td>
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<tr>
<td>14.40</td>
<td>Developing Clinical Reasoning Skills to Manage Complex problems</td>
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<td>Denise Prescott</td>
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<td>15.10</td>
<td>Using the Competency Tools: the Wrightington Experience</td>
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<td>Neil Crabtree and Keiran Goode</td>
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<td>15.30</td>
<td>Competency Workshop</td>
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<td>Tea</td>
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<td>16.00</td>
<td><strong>BASK – Room 3</strong></td>
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<td>Medicolegal session</td>
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<td>17.30</td>
<td>Arthrex “Cadaveric Demonstration” – Live Link in <strong>Room 4a</strong></td>
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<td>Limited spaces available – Please visit Arthrex on their stand no.8 to request an invitation.</td>
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<tr>
<td>19.30</td>
<td>Association Dinner – Town Hall, Liverpool – Entrance by ticket only</td>
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THURSDAY 31ST MARCH AM

9.00  
ACPA – Room 4b  
Improving Patient Satisfaction session Chair: Claire-Louise Sandell

9.00  
Proms: the Liverpool Experience  
Dr Cathy Armstrong

9.30  
Picking Winners  
Dr Paul Jermin

10.00  
ACPA AGM

10.20  
Coffee

10.50  
BASK  
Peter Giannoudis: Periprosthetic Fractures

11.20  
ACPA  
Case studies  
Close of ACPA meeting

12.00  
BASK – Room 3  
Lordon Trickey lecture: Robert Barrack

12.45  
Lunch

13.30  
BASK meeting programme – Room 3
0004 – FUNCTIONAL OUTCOME SCORES CAN BE USED AS A SECONDARY END POINT IN CLINICAL RESEARCH DESCRIBING THE FUNCTION OF THE KNEE FOLLOWING ACL RECONSTRUCTION

Antony Palmer 1, Luke Jones 1, Sujin Kang 1, Muhammad Adeel Akhtar 1, Muhammed S. Ali 1, Alister Hunter 2, Sartaj Afzal 1
1. Mid Yorkshire Hospitals NHS Trust, Wakefield, UK
2. Morriston Hospital, ABMU health board, Swansea, Wales

Introduction: Anterior knee pain and patellar femoral instability have a multifaceted aetiology and are therefore difficult to treat. A variety of surgical treatments have been proposed for such patients. Trochlear tendon transfer is one such option and has been described using different techniques. The aim of this study was to perform a PubMed literature review to assess the procedure and its clinical outcomes. Purpose: This study describes the clinical efficacy and outcomes of a Trochlear Tendon Transfer.

Poster Design: Case series
Methods: 86 consecutive patients who underwent TTT for anterior knee pain and/or patellar instability were studied prospectively. All patients received a trial of non-operative rehabilitation protocol operatively. Clinical outcome was measured using the Kujala knee score prospectively and at an average follow up of 1.7 years (5 months to 3 years). Results: 100% of patients were satisfied with their decision to undergo the operation at the latest follow up. The mean Kujala score was prospectively 41.0 (range 24-58) and at an average follow up of 1.7 years (5 months to 3 years) 21.8 (range 10-53).

Conclusion: Our experience suggests that bilateral tubercle transfer provides a safe and effective surgical treatment option for patients with anterior knee pain and patellar instability. Patients with patellofemoral instability pre-operatively derived the most benefit.

0020 – MAGNETIC RESONANCE IMAGING (MRI) EVALUATION OF RECURRENT PATELLAR INSTABILITY
Muhammad Adeel Akhtar, Brent Ascherl, Ian Curzon, Sheamus Fitzgerald, Anthony Hunter
1. Mid Yorkshire Hospitals NHS Trust, Wakefield, UK

Introduction: MRI scan is used to evaluate the status of MPFL and trochlear dysplasia following recurrent patellar instability. Our aim was to study the MRI findings in patients undergoing MPFL reconstruction.

Material and Methods: The MRI scans of 19 patients undergoing MPFL reconstruction were correlated to the patients’ clinical outcome and assessed the Medial patellofemoral ligament (MPFL), trochlear dysplasia and patellar position and trochlear angle. The findings were compared to different findings on the MRI scan was assessed by using Kappa test.

Results: The mean age for 10 female(53%) and 9 male(47%) patients was 21 years(range 13-33). MPFL was identified in all patients by at least 2 observers. MPFL was intact in 14 (74%) patients and had a kappa value of 0.76. MPFL status was 0.57. MPFL rupture site was patella tilt in 16 patients (84%, with a kappa value of 0.56 for inter-observer variability. The mean Insall-Salvati ratio was 1.3 (range 1.1-1.6). The patella alta was noted in 12/18 patients(67%) with a kappa value of 0.93.

Conclusion: Trochlear dysplasia was present in 84% and patellar tilt was noted in 67% of patients. There was poor inter-observer agreement for MRI findings for MPFL status(kappa 0.57), trochlear dysplasia(kappa 0.26) and patellar tilt(kappa 0.57). The highest inter-observer agreement was for patella alta with a kappa value of 0.93. We believe that MRI findings alone cannot be used as the definitive diagnostic test for patellar instability.

0021 – MAGNETIC RESONANCE IMAGING (MRI) AND OUTCOMES IN ADOLESCENTS UNDERGOING PATELLAR STABILIZATION FOR RECURRENT PATELLAR INSTABILITY
Muhammad Adeel Akhtar, Firas Kissi, Anthony Hui
1. James Cook University Hospital, Middlesbrough, UK

Introduction: Our aim was to study the MRI findings and outcomes following patellar surgery for patellar instability in adolescents.

Material and Methods: 10 patients undergoing patellar stabilisation surgery at the age of 16. MRI scans were obtained pre-operatively and at follow up. The mean follow up was 21 months(range 5-42). At the last follow up there were no further episodes of patellar instability,leg length discrepancy or patellar malalignment.

Results: The mean age for 6 females and 4 males was 16 years(range 13-18).1 patient had bilateral patellar stabilization. There were 8(72%)Medial patellofemoral ligament (MPFL) reconstruction and 3 patients (28%)had MPFL reconstruction and trochleoplasty. The growth plate was open in 2 patients(20%)and closed in 8(80%)on preoperative x-rays. 7 patients had preoperative MRI scans which showed an intact MPFL in 45(75%), loss in 22(38%)and loss in 3(4%) MPFL. Tom was from patella and from both patella and femoral sites in 1 patient each 6 patients(86%) had trochlear dysplasia, 1 patient had intact patella tilt and 1 patient had patella alta on MRI scan evaluation. The mean Insall-Salvati ratio was 1.24(range 1.1-1.6). The mean follow up was 21 months. There were no further episodes of patellar instability, leg length discrepancy or patellar malalignment.

Conclusion: We studied the MRI findings and outcomes following patellar stabilization in adolescents with patellar instability. Trochleoplasty was intact in 86% patients, 3 patients(28%)required Trochleoplasty along with MPFL reconstruction for patellar stabilization. There were no further episodes of patellar instability. We reviewed all MPFL reconstruction and trochleoplasty in asymptomatic adolescents with patellar instability as we think that MRI scan is important for planning during MPFL reconstruction and this did not lead to new growth arrest.
0024 – THE INCIDENCE OF ANTEROLATERAL LIGAMENT INJURY IN ASSOCIATION WITH ANTERIOR CRUCIATE LIGAMENT RUPTURE ON PREOPERATIVE MAGNETIC RESONANCE IMAGING (MRI) SCANS – An analysis of the role of MRI in the management of anterior cruciate ligament ruptures.

0025 – LOCAL INFILTRATION ANALGESIA FOR TOTAL KNEE ARTHROPLASTY – Evaluation of the effectiveness of local infiltration analgesia in reducing the pain experienced by patients following knee arthroplasty.

0031 – AN ACTIVE DISCHARGE POLICY AFTER KNEE ARTHROSCOPY AND MENISCECTOMY IS APPROPRIATE AND TIME EFFICIENT – A study on the effectiveness of an active discharge policy after knee arthroscopy and meniscectomy.

0032 – THE DAY OF SURGERY DISCHARGE FOLLOWING UNCOMPARTMENTAL KNEE ARTHROPLASTY WITHIN THE UK NATIONAL HEALTH SERVICE – A study on the day of surgery discharge following uncompartmental knee arthroplasty.

0046 – ROPICUARINE PLASMA LEVELS FOLLOWING HIGH-DOSE LOCAL INFILTRATION ANALGESIA FOR TOTAL KNEE ARTHROPLASTY – A study on the plasma levels of ropivacaine following high-dose local infiltration analgesia for total knee arthroplasty.

0050 – 12 YEAR SURVIVAL ANALYSIS OF OXIDISED ZIRCONIUM TOTAL KNEE REPLACEMENTS PERFORMED IN PATIENTS UNDER 50 YEARS OF AGE – A study on the 12-year survival analysis of oxidised zirconium total knee replacements performed in patients under 50 years of age.

0051 – OUTCOMES OF DEBRIDEMENT, ANTIBIOTICS AND IMPLANT RETENTION (DAIR) PROCEDURE IN ACUTE PERIPROSTHETIC JOINT INFECTION (PJI) – A study on the outcomes of debridement, antibiotics, and implant retention (DAIR) procedure in acute periprosthetic joint infection (PJI).

0057 – CLINICAL COMPARISON OF ARTHROSCOPIC VERSUS OPEN AUTOLOGOUS, MATRIX-INDUCED CHONDROGENESIS (AMIC) FOR CARTILAGE REPAIR IN THE KNEE – A comparison between arthroscopic and open techniques for cartilage repair in the knee.

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Results: We recorded an overall success rate of 37.5%. Failures were associated with history of previous PJ, chronic infection, longer duration of symptoms, diabetes mellitus and chronic renal failure. Presentation was associated with failure.

Conclusion: Our data demonstrated a low success rate of DAI. It is recommended to use selective prophylaxis and expensive and complicated revision surgery in this group of patients.

0053 – FUNCTIONAL OUTCOMES FOR ACL GRAFT PLACEMENT USING A TRANSITABLE OR ANTEROMEDIAL PORTAL TECHNIQUE – A PILOT STUDY

Osama Ragh, Fahad Hossain, Aamir Siddiqui

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Background: Contemporary methods of anatomic ACL reconstruction (ACR) using anteromedial (AMP) femoral drilling tech- niques have been advocated due to perceived benefits of better rotational control and a more anatomical reconstruction of the knee while preserving the existing components of the longer established transcitral (TT) technique have historically managed good outcomes using the established technique. This study aimed to ascertain if there was any difference in patient reported functional outcomes between the two techniques of ACR.

Methods: Prospectively collected data from a single surgeon series of 32 patients subjected to arthroscopic ACR using either a TT (n=21) or AMP (n=8) technique was undertaken. Functional outcome measured using the Lysholm score and hop test at 12 months was compared between the two techniques using an ANCOVA analysis after correcting for preoperative scores, age and presence of concomitant injuries.

Results: No difference with respect to age, gender and preopera- tive Lysholm scores between the two groups. The mean pre-oper- ative Lysholm score improved from 50.7 (TT) and 52.4 (AMP) to 86.7 and 85.6 respectively. After accounting for all confounding variables there was no difference in Lysholm scores and hop test at 12 months between the two groups. The presence of concomi- tant clinical injury (p<0.005) and preoperative Lysholm scores (p<0.0001) were the most important determinants of postopera- tive Lysholm scores.

Conclusion: There is no difference in functional outcomes when comparing the TT technique to more anatomic methods of ACR. Post-operative outcomes of concomitant ligament injuries are the most significant determinants of functional out- come after ACR.

0060 – INTRODUCTION OF THE MICROPLASTY INSTRUMENTATION SYSTEM FOR UNICOMPARTMENTAL KNEE ARTHROPLASTY: CLINICAL OBSERVATION FOLLOWING IMPLANTATION OF THE OXFORD KNEE IMPLANT

Abtin Alinav, Reza Mafi, Hannah Wilson, Cameron Brown, David Beard, Nicholas Bottomley, William Jackson, Andrew Price

University of Oxford, Oxford, UK

Background: The ‘Microplasty’ instrumentation for implantation of the Oxford unicompartmental knee arthroplasty (UKA) aims to simplify the surgical technique, reduce剧院, improve outcomes, compre- hensive range of product and functional outcome was determined using the Oxford Knee Score (OKS).

Results: There were no intra-operative complications in either cohort but all patients achieved a complete range of movement except varus/varus alignment of the femoral component for which the Microplasty cohort recorded significantly lower number of outliers (13% for Microplasty compared with 4% in Phase 3; p<0.05). Tibial plateau resection depth was significantly lower in the Microplasty cohort (p=0.005). Mean OKS improvement at the time of surgery was 18.7 (3.3) compared with a marginally lower improvement of 18.2 (10.9) in the Phase 3 cohort (p<0.05).

Conclusions: This study demonstrates that experienced UKA sur- geons can safely switch over to the Microplasty instrumentation without compromising implant positioning and functional out- come. A further advantage appears to be the more conservative resection of the tibial plateau while maintaining the Microplasty instrumentation. This study aimed to ascertain if there was any difference in patient reported functional outcomes between the two techniques of ACR.

Methods: Prospectively collected data from a single surgeon series of 32 patients subjected to arthroscopic ACR using either a TT (n=21) or AMP (n=8) technique was undertaken. Functional outcome measured using the Lysholm score and hop test at 12 months was compared between the two techniques using an ANCOVA analysis after correcting for preoperative scores, age and presence of concomitant injuries.

Results: No difference with respect to age, gender and preopera- tive Lysholm scores between the two groups. The mean pre-oper- ative Lysholm score improved from 50.7 (TT) and 52.4 (AMP) to 86.7 and 85.6 respectively. After accounting for all confounding variables there was no difference in Lysholm scores and hop test at 12 months between the two groups. The presence of concomi- tant clinical injury (p<0.005) and preoperative Lysholm scores (p<0.0001) were the most important determinants of postopera- tive Lysholm scores.

Conclusion: There is no difference in functional outcomes when comparing the TT technique to more anatomic methods of ACR. Post-operative outcomes of concomitant ligament injuries are the most significant determinants of functional out- come after ACR.

0066 – MORPHINE SULPHATE (SLOW RELEASE) IS NOT EQUIVALENT TO OXYCODONE (MODIFIED RELEASE) IN ENHANCED RECOVERY KNEE ARTHROPLASTY SURGERY

Sarah Jones, Jeremy Davidson, Emilie Sluggett, John Skinner, Jonathan Briggs, Reza Mafi, William Aston, Tim Briggs

Royal National Orthopaedic Hospital, Greater London, London, UK

Background: Since 2003 the National Joint Registry estimate 17,000 knee replacements are performed annually in the UK. There is a primary and revision knee arthroplasty has increased the burden on the revision surgery, with little known about this cohort of patients. Method: Pilot study reviewing 50 multiple revision knee replace- ments in a completed revision surgery, where the final procedure was performed at our institution (Tertiary centre; between 2003- 2015).

Results: First revision was performed for ongoing pain in 24(48%) cases, loosening in 17(34%) cases, infection in 6(12%) cases and instability or stiffness in 7(14%) cases. Second revision: loosening 20(40%), infection 16(32%), ongoing pain 9(18%) and instability/stiffness in 5(10%). Third revision: infection 10(20%), loosening 5(10%), pain 2(4%) and instability/stiffness in 2(4%). Four revision: infection 35(66%), loose 3(6%) and instability in 2(4%). Fifth revision surgery performed for infection and resulted in amputation.

Main reasons for first revision in this multiple revision cohort were: loosening and pain. However the burden of infection increases as the number of revision procedures does (first 12% to 60% fourth revision).

Conclusion: Multiple revision surgery required use of complex implants (>50%); with 19 constrained, 6 distal femoral replacements, 1 arthrodesis. 8 amputations were performed for infection.

0067 – EXPERIMENTAL WEAR SIMULATION OF AN ALL-POLYMER KNEE IMPPLANT UNDER DIFFERENT ENVIRONMENTAL CONDITIONS

Reanne Cowan, Adam Briscoe,1 John Fisher,2 Louise Jennings3

1Institute of Medical and Biological Engineering, University of Leeds, Leeds, West Yorkshire, UK; 2Royal National Orthopaedic Hospital, Greater London, UK

Introduction: PEEX Optima shows promise as an alternative arthroplasty bearing material due to its biocompatibility and potentially low wear rates. The aim of this study was to investigate the wear of an all-polymer PEEX-on-polyethylene knee replace- nent in a knee simulator under different environmental conditions and to compare the wear to a conventional metal-on-polyethylene implant.

Methods: PEEX Optima femurals (Imvis Biomaterials Solutions, UK) have a chrome femoral head diameter of 28 mm. The geometry and topography were tested against all-polyethylene tibias in a knee simulator under knee flexion of 0° (AO90) and 90° (AO90). Patient (n=1). No of implant was tested at room temperature for 5 million cycles (MC) and n=3 at elevated temperature (33°C) for 5 million cycles of 2% bovine serum as a lubricant. The wear of the tibias was assessed.

Results and Discussion: The wear of the implants was low against both metal (c≤5/nmol/MC) and testing at elevated tem- perature further lowered wear for both material types. This was due to the use of a biocompatible and non-toxic protein- based lubricant. In the more rigorous room temperature test there was no significant difference in wear rate between the differ- ent femoral and polymer (p>0.05). Scratching was observed on the PEEX implants however, this did not influence the wear rate which remained constant.

Conclusion: PEEX Optima shows promise as an alternative bearing material to cobalt chrome in a metal free knee implant. Environmental conditions such as lubricant temperature influence the wear of materials.

0077 – REVISION KNEE ARTHROPLASTY: INFECTION DIAGNOSIS; IS PATIENT VS. TWO GENERATIONS OF TRADITIONAL TKA DURING VARIOUS ACTIVITIES

Introduction: The objective of this study is to compare in vivo kinematics of posterior cruciate retaining (PCR) total knee arthroplasty (TKA) current designs with AO low contervension design, traditional, off-the-shelf (OTS) TKA or a customized individually-made (CIM) TKA in a model reproducing weight bearing daily activities. Methods: In vivo kinematics for 65 clinically successful patients, 25 CIM-PCRTKA, 15 OTS-PCR-TKA of a legacy design and 25 OTS-PCR-TKA of a modern design, both currently on the market, were assessed using mobile fluoroscopy and 2D-3D registration during weight-bearing deep-knee-bend (DKB), chair-rise, and gait activities. Results: During DKB, CIM patients experienced 3.9mm femoral rollback from 11.37mm (p<0.05 vs. OTS) and 2.06mm (p<0.19 vs. OTS). For the knee flexion of 125°, a thigh acceleration of 0.23 G was needed for both CIM-TKA and OTS-TKA. OTS-TKA demonstrated the 6.25° as axial rotation compared to 4.41° (p=0.05) and 1.54° (p>0.05) for the legacy and modern design OTS-PCR-TKAs. On average, CIM subjects experienced similar weight-bearing flexion to the modern design TKA (OTS-TKA, p>0.05), compared to 92° for legacy design OTS-TKAs. Discussion: During DKB, CIM subjects experienced greater lateral condylar femoral rollback and axial rotation. OTS subjects experienced a lower flexion and external rotation, different three months knee motion, whereas CIM subjects experienced a change from increased external femoral rotation to normal knee motion. Additionally, patients with a CIM-TKA experienced significantly higher rollback than the legacy design and hip flexion participants.

Significance: While kinematic variability was observed between surgical groups, we believe hope kinematics patterns more closely the normal knee.

0078 – IMPROVED KNEE FUNCTION AND OBJECTIVE KNEE SCORE DISTRIBUTION WITH CUSTOMIZED VS. OFF-THE-SHELF TKA IMPLANT

Introduction: The objective of this study was to compare patient reported outcomes and blinded functional tests for patients implanted with either a Customized, Individually Made TKR (CIM-TRK) or Off-The-Shelf TKA (OTS-TRK).

Methods: 386 knee replacements were performed and available data for 216 Journey I (J1) and 101 Journey II (J2) knees were assessed. Thirty-one patients were primarily resurfacing and 62 in 2 and 3 patients were revision. Statistical active analysis was undertaken at one year, assessing numerous factors including pain, functional activity, range of motion, stability, and subjective satisfaction.

Results: While both replacements demonstrated excellent post-operative function, Journey II performed better than Journey I with fewer complications. In both groups, patella resurfacing improved patella-Femoral pain (p<0.03) with J2 demonstrating better improvement in patients with resurfacing. However, patellar, active and passive was not significantly different between both designs. Figure I: Contour-1; Contour-2; Contour-3 vs. Contour-4. Conclusion: J2 needs less walking support (p<0.02), had better muscle strength (p<0.04), bigger improvement in Oxford score (p<0.01) but not statistically better with regard to flexion improvement. SF-12 and WOMAC scores. There were three dislocations of the patella in both groups. The patellectomy was not required for secondary patella resurfacing was reduced by J2.

0078 – THE JOURNEY BICRUCATE KNEE REPLACEMENT: DESIGN MODIFICATIONS YIELD EXCELLENT EARLY FUNCTIONAL RESULTS.

Introduction: The Journey I knee replacement (bicruciate substituting implant) was designed to improve knee kinematics and functionality, and provide an improved range of motion and stability compared to traditional TKA designs.

Methods: This prospective, single-blinded, randomized, controlled trial compared 216 Journey I (J1) and 101 Journey II (J2) total knee replacements performed yearly and the primary end point was surgical complications. The cost is relatively small compared to surgical interventions. However, there has not been any study reporting their long-term use. The present study was conducted to evaluate the clinical outcomes of Journey TKA in 36 patients with 29 knees, 5 years follow-up.

Results: At the last follow-up, 21 out of 26 patients did not require surgery; there was no significant radiological progression of osteoarthritis. 68% of patients had better knee function and previous level of activity while using the offloading brace. Multivariate regression analysis suggests that outcomes for men were better than women and men had a lower rate of patellar complications. Braces can reduce the number of patient undergoing knee replacement.
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0116 – USING STANDARD OPERATING PROCEDURES TO IMPROVE PATIENT SATISFACTION AND SUCCESS OF DAY CASE UNCOMPARTMENTAL KNEE REPLACEMENT: DATA FROM 11 YEARS EXPERIENCE IN 3 CENTRES
Aidan Jackman1, Abtin Alvane1, Sakti Thabre1, Paul Monk1, Nicholas Bottsworth1, Ruby Bell1, Hannah Wilson1, David Beard2, Andrew Price3
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Background: Standard Operating Procedures (SOPs) may help to overcome some of the challenges during the implementation of Day Case Uncompartmental knee Replacement (DC-UKR). We aimed to assess patient experience after DC-UKR and compliance with SOPs and their effect on the success of DC-UKR.

Methods: We performed a single centre retrospective case note review of all patients who had undergone a lateral UKR and 1 patient who had a total knee replacement (TKR). SOPs were defined for every step of the clinical procedure. The primary outcome was patient experience measured with The Satisfaction Survey Questionnaire (SSQ). The Outcomes and Experiences Questionnaire (OEQ) at 3 months follow-up. In addition compliance with these SOPs, along with length of stay, readmission rates and reasons for day case failure were assessed.

Results: Of the 30 patients, 18 (60%) were successfully discharged on the day of surgery. One day case patient was readmitted 2 days post-operatively due to pain. The 12 failed day case patients stayed for a mean duration of 1.3 days (1-3 days).

Out of all day case SSQ responses, 86% were (highly) satisfied, although 3% were unsatisfied. Patients rating of their experience were assessed.

Discussion: Using SOPs may be able to successfully complete day-case UKR in 60% of patients selected with high levels of satisfaction.

0117 – HYPERExtension INJURIES OF THE KNEE: DO PATTERNS OF BONY INJURY CORRELATE WITH DAMAGE TO SOFT TISSUE? Adam Ali

Objective: To correlate patterns of bony injury with damage to soft tissue structures following knee hyperextension.

Methods: We identified 30 patients with an MRI following knee hyperextension. We used the Knee Injury and Osteoarthritis Outcome Score (K-ITKO) to assess knee function and subsequently increased surgical accuracy in high tibial osteotomy.

Results: Of the 30 patients, 18 (60%) were successfully discharged on the day of surgery. One day case patient was readmitted 2 days post-operatively due to pain. The 12 failed day case patients stayed for a mean duration of 1.3 days (1-3 days).

Out of all day case SSQ responses, 86% were (highly) satisfied, although 3% were unsatisfied. Patients rating of their experience were assessed.

Discussion: Using SOPs may be able to successfully complete day-case UKR in 60% of patients selected with high levels of satisfaction.

0118 – MINIMALLY INVASIVE SURGERY (MIS) TOTAL KNEE REPLACEMENT, 5 YEARS FOLLOW UP
Olivia Uminer1, Mo Hassanb, James Murray1, Andrew Porteous1
1Avon orthopaedic centre, Southmead hospital, Bristol, UK
2Faculty of Medicine, Bristol University, Bristol, UK

Introduction and Aim: Minimally invasive surgery for total knee replacement has been under debate in the literature for some years. This study reports the results of medium term follow up (mean 6 years) from a prospective randomised control trial comparing MIS-TKA with the standard approach.

Patients and Methods: This study reports the results of a medium term follow up (mean 6 years) from a prospective randomised control trial comparing MIS-TKA with the standard approach.

Results: There was no significant difference between MIS and standard TKR groups for absolute scores or change in scores from pre-operative to medium term follow up in all three PROs. Mean MIS and standard TKR improved in all PROs: WOMAC = 53.1 (pre-op 43.0, p<0.0001), WOMAC = 15.6 and 10.6 (p<0.0001) and SF-12 = 48.8 and 43.2 (p<0.0001). All 4 investigators correctly identified the 4 quadriceps tendons. EAT is a simple and quick bedside diagnostic clinical test that may identify quadriceps ruptures on both occasions giving a sensitivity of 100%.

0119 – IN AN ERA OF ADVANCED TECHNOLOGY DO PATIENTS STILL WANT TO ATTEND OUTPATIENT CLINICS?
Marita Callaghan
Cardiff and Vale University Hospitals, cardiff, UK

Background: In today’s NHS, the pressure to accommodate new referral/assessments and follow-up reviews is increasing. Any modality to facilitate faster and effective patient access and function by reducing long waiting times, patients completed the questionnaires (32 in MIS group, 33 in control group).

Discussion: There was no significant difference between MIS and control TKA groups for absolute scores or change in scores from pre-operative to medium term follow up in all three PROs. Mean MIS and standard TKR improved in all PROs: WOMAC = 53.1, 43.0, 48.8 and 43.2 (p<0.0001), WOMAC = 15.6 and 10.6 (p<0.0001) and SF-12 = 48.8 and 43.2 (p<0.0001).

0120 – MISSION TKA AND standard techniques according to patients reported outcome in medium term follow up.

0121 – SAME DAY MOBILISATION IS ASSOCIATED WITH REDUCED LENGTH OF STAY, INCREASED ARTHROPLASTY ENHANCED RECOVERY PROGRAMME
Harald Alphage, Alex Vaughan, Hari Arunchalam, Bessee Ayres, Western Sussex Hospitals NHS Trust, Western Sussex, UK

Introduction: Early mobilisation is often incorporated into Enhanced Recovery Programmes (ERP). The ability of ERP to reduce length of stay, cost and to improve patient experience and cost-efficiency has been demonstrated, but the impact of same-day mobilisation remains to be conclusively shown. Significant implications may include improved service delivery and reduced costs.

Methods: Data were prospectively collected for all patients undergoing TKA at West Sussex Hospitals between 2010 and 2015. Multi-Disciplinary Teams were involved in preoperative counselling, perioperative management, early mobilisation and safe discharge.

Between January –June 2015 patients undergoing TKA were recruited for a prospective matched-pair analysis of the CP protocol (CP) vs systematic and topical TKA administration. The objective of this study was to undertake a prospective matched-pair analysis of the CP against SP.

Methods: Between January –June 2015 patients undergoing TKA had systematic 1gm of TKA SP on injection. From August onwards all patients underwent a combined protocol (CP) of 1gm of systemic TKA on induction and 1gm of topical TKA after closure of the wound. The study protocol was designed in accordance with the Enhanced Recovery audit guidelines. The investigation was performed by the four authors. There were 4 parameters measured for the clinical outcomes: wound complications, symmetry, thrombotic re-occurrence and re-hospitalisation.

Results: 35 consecutive patients were included in each of the groups. There were no differences in the baseline demographics, wound complication rates, wound complications, symmetry, thrombotic re-occurrence and re-hospitalisation.

Discussion: Early mobilisation may include planning of services and resources.

Despite the easy access to modern communication methods the large majority of the patients still prefer to face to face appointments, with no difference between age group patients.

0130 – POST-OPERATIVE CONTROL OF WEDGE DISTANCE USING A DRACTION NAIL INCREASES SURGICAL ACCURACY IN HIGH TIBIAL OSTEOTOMY
Prepuq Ephraimpos, Lewis C Bennett, David W Elkon, Matt J Dawson
Cumberland Infirmary, Carlisle, UK

Medial Opening Wedge High Tibial Osteotomy (MOW HTO) is an established treatment of mono-compartmental osteoarthritis in younger active patients. Success is dependent upon correct perception, with improved alignment when targets are achieved. Significant under-correction or over-correction may lead to poor clinical outcomes. Pre-op planning is mandatory but does not necessarily translate into accurate execution. Currently, ossseous wedge distances are fixed on table with devices which do not allow post-operative correction. So the achieved correction must be accepted or revised. A novel nail device which contains a magneto control motor, facilitates post-op distraction and has been developed for this purpose. A prospective case series includes 11 cases undergoing MOW HTO. Mean age was 52.5 (Range 45-60), ten males, one female. Long leg alignment radiographs were performed pre-op, with patella centred forward and a calibration mark barrier. Bespoke corrections were planned using Minarc technology and post-operative nailed nailing were inserted through a medial para-taillar approach sub sequently bi-planar osteotomy was performed through a separate oblique incision. Distraction was applied maintaining a 10% distraction for 10 days with follow up at 2, 4, 6 and 12 weeks. The distraction was adjusted according to the intended position of the nail. All cases in this series achieved corrections within 2.5% of the intended target. This novel device allows post-operative adjustment and subsequently increases surgical accuracy in high tibial osteotomy.

0137 – EXTENDER ACTIVATION TEST (EAT): A NEW CLINICAL TEST FOR TENDON RUPTURE
Mubah Alham, Ali Badh, Michael Goldberg, Saadallah Mortada
BHR University Hospitals NHS Trust, London, UK

Introduction: Quadriceps tendon ruptures are common. However, misdiagnosis or diagnostic delay occurs in 37-69% of cases.

Objectives: To describe and validate the Extender Activation Test (EAT) for the assessment of the integrity of the quadriceps tendon.

Methods: Quadriceps contraction the patella visibly mobilises into the femoral notch. 10 with con -tact maintained the patella mobility is re-checked. Unlike in normal quadriceps, with complete quadriceps ruptures the patella does not move into the groove and remains mobile.

The investigation was performed by the four authors. There were 10 patients (6 males, 4 females). 4 patients with isolated quadriceps tendon ruptures on both occasions giving a sensitivi-ty of 100%.

Conclusion: EAT is a simple and feasible bedside diagnostic clinical test with a high sensitivity and specificity.

0138 – HIGH TIBIAL OSTEOTOMY IN THE TREATMENT OF KNEE OSTEOARTHRITIS IN YOUNG WORKING ADULTS
Cezary Kocialkowski, Alex Dodds, Harminder Gosal
Chettiham General Hospital, Chettinhamp, UK

Introduction: Surgical treatment options for isolated medial compartment knee osteoarthrisis in our department were re-evaluated. We examined the patients using the EAT without examining for straight leg raising or palpating for a gap. After 60 minutes the patients were moved around and the process repeated with the examiners in reverse order. Diagnosis were confirmed by MRI and sur-gery.

Results: All 4 investigators correctly identified the 4 quadriceps ruptures on both occasions giving a sensitivity of 100%. 1 investigator thought an intact quadriceps tendon was EAT positive on one occasion in a patient with recurrent patella dislocation of that knee, otherwise all knees with an intact quadriceps tendon were reported as being EAT negative, giving a specificity of 97%.

Conclusion: EAT is a simple and feasible bedside diagnostic clinical test with a high sensitivity and specificity.
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