2018 Annual Spring Meeting – 20th & 21st March
(including an ACPA Parallel Meeting)

LCFC, King Power Stadium, Leicester

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the 2018 BASK Annual Spring Meeting

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From the President

It is with great anticipation and pleasure that the BASK Executive and I welcome you all to Leicester for our 2018 Spring Meeting.

The Romans created a settlement by the River Soar in AD47 when travelling from Exeter to Lincoln. Jewry Wall is the sole remnant of the roman town’s public baths. Leicester has better known as the final resting place of Richard III. Piers Mitchell, Paediatric Orthopaedic Surgeon and Lecturer in Biological Anthropology at the University of Cambridge, will be telling us how remains under a public car park were verified as being those of Richard III.

The conference will be held in the King Power Stadium where Leicester City FC fought an epic battle to become Premier League Champions in 2016, against all the odds. Leicester Tigers have won 20 major titles, were European Champions twice and have won a record 10 English Championships.

We are pleased to have the ACPA meeting running in tandem with the BASK meeting. The members of ACPA have arranged their own programme but we welcome any of the ACPA delegates attending any of the BASK programme, as our needs and interests are symbiotic.

The Lorden Trickey Lecturer is Wolfgang Klauser, Chief of the Helios Baltic Sea Clinic who will discuss the Principles of Revision Knee Surgery. Wolfgang was formerly Chairman of the Knee Dept. and Deputy Medical Director of the Endo Klinik, Hamburg from 2005 to 2015.

We have two Instructional Courses covering preventing and treating periprosthetic joint infection, revision a.c.l. reconstruction and discussing whether we really know how we can improve the outcome of knee arthroplasty surgery.

The Annual Dinner will be held at the National Space Centre in the shadow of Blue Streak and Thor Able rockets and the UK Near Earth Object Information Centre, with entertainment from Jan Ravens, star of BBC Dead Ringers (or whoever turns up).

We hope that we have got the balance between free paper sessions, Instructional Courses and invited lectures correct. We look forward to your feedback so that we can continue to improve BASK Meetings. Delegates will be requested to complete an online survey following the meeting in order to obtain their CPD certificate.

We hope that you will enjoy the social and scientific programmes and make the meeting all it can be in every way possible.

Colin Esler and the BASK Executive
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*Introducing the BASK Executive Committee – inside back cover*
Visit our Exhibitors!

The following companies are exhibiting at the 2018 Annual Spring Meeting to showcase their products – *Please take the time to visit the stands*

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**BASK ANNUAL SPRING MEETING 2018**  
**LCFC, King Power Stadium, Leicester**

**TUESDAY 20th MARCH**

08.00  
REGISTRATION & COFFEE – Reception Lounge & Walkers Hall within the Exhibition area

09.00  
Welcome Introduction – **BASK President, Colin Esler (Leicester)** – Keith Weller Lounge

**Session I – Arthroplasty**  
Moderators: **Tony Hui (South Tees) & Steve Godsiff (Leicester)**

09.10  
**Free Paper Session:**

- **0085 – PROSPECTIVE RANDOMISED CONTROL STUDY OF THE AGC TOTAL KNEE SYSTEM VERSUS VANGUARD® KNEE SYSTEM: THREE TO FIVE YEAR RESULTS**  
  Satish Kannan Rajankulam Ganesan, Manjunathan Sivaprakasam, Kate Weatherly, Kim Miles, Richard Goddard, Adrian Butler-Manuel  
  East Sussex Healthcare NHS Trust, St Leonards on Sea, United Kingdom.

09.16  
**0074 – MINIMUM TEN-YEAR SURVIVORSHIP AND PATIENT-REPORTED OUTCOMES OF A SINGLE-RADIUS, CRUCIATE RETAINING TOTAL KNEE ARTHROPLASTY**  
  Chloe Scott, Katrina Bell, Richard Ng, Deborah MacDonald, James Patton, Richard Burnett  
  Royal Infirmary of Edinburgh, Edinburgh, United Kingdom.

09.22  
**0067 – ANALYSIS OF THE ATTUNE TIBIAL BACKSIDE: A COMPARATIVE RETRIEVAL STUDY.**  
  Arianna Cerquiglini¹, Johann Henckel¹, Harry Hothi¹, Paul Allen¹, James Lewis¹, Tim Wilton¹, Antti Eskelinen³, Michael T. Hirschmann¹, Alister J. Hart¹  
  ¹University College London and the Royal National Orthopaedic Hospital, Stanmore, United Kingdom. ²Princess Alexandra NHS Trust, Harlow, United Kingdom. ³Goring Hall Hospital, Goring By Sea, United Kingdom. ¹Royal Derby Hospital, Derby, United Kingdom. ²The Coxa Hospital for Joint Replacement, Tampere, Finland. ³University of Basel and Department of Orthopaedic Surgery and Traumatology, Kantonsspital Baselland, Basel, Switzerland.

09.28  
**0001 – ATTUNE HAS IMPROVED SURVIVORSHIP AND CLINICAL OUTCOME OVER PFC SIGMA – A SINGLE SURGEON SERIES OF 1000 TKAS WITH MINIMUM 2 YEARS FOLLOW-UP**  
  Benjamin Bloch, Mohammed Shahid, Peter James  
  Nottingham University Hospitals NHS Trust, Nottingham, United Kingdom.

09.34  
**Discussion**

09.42  
**0004 – The Rotational Kinematics of Arthritic and Replaced Knees Following Computer-aided Total Knee Arthroplasty**  
  Kamal Deep, Nanjundappa S Harshavardhana, Carlo Menna, Angela Deakin, Frederic Picard  
  Golden Jubilee National Hospital, Clydebank, Glasgow, United Kingdom.

09.48  
**0024 – OUTCOMES OF ALLOGRAFT MEDIAL PATELLOFEMORAL LIGAMENT RECONSTRUCTION (MPFL) IN CHILDREN & ADOLESCENTS WITH JOINT HYPERMOBILITY**  
  Gautam Reddy, Nisarg Mehta, Nameer Choudhry, Coline Bruce, Nick Barton-Hanson  
  Alder Hey Hospital, Liverpool, United Kingdom.

09.54  
**0057 – Forgotten joint score: comparison between different types of total and unicompartmental knee replacements – 1.5 and 10 year follow**  
  James Corbett, Paul Nicolai  
  West Suffolk Hospital, Bury St Edmunds, United Kingdom.

10.02  
**0099 – PATIENT SATISFACTION AND PROMS IN COMPUTER NAVIGATED VS. NON-NAVIGATED TOTAL KNEE REPLACEMENTS(TKR)**  
  Kamal Deep¹, Kumar Kaushik Dash¹, Shivakumar Shankar¹, Frederic Picard¹, Alistair Ewen¹  
  ¹Golden Jubilee National Hospital, Clydebank, Glasgow, United Kingdom. ²Queen’s Hospital, Romford, United Kingdom.

10.08  
**Discussion**

(The abstracts relating to the Free Paper Sessions are stated on pages 12 to 21)
10.15 **COFFEE** – (Walkers Hall & Reception Lounge – Exhibition / Poster & E-Poster Viewing)

**Session 2 – Soft Tissue Knee Surgery**  
*Moderators: Tawfiq Korim (Leicester) & Alex Dodds (Gloucester)*

**10.40**  
**Free Paper Session:**  
0091 – **PAEDIATRIC ANTERIOR CRUCIATE LIGAMENT REPAIR WITH INTERNAL BRACE – EARLY RESULTS**  
John Dabis, Raghbir Khakha, Mike Risebury, Sam Yasen, Adrian Wilson  
Basingstoke & North Hampshire NHS Trust, Basingstoke, United Kingdom.

0049 – **SINGLE STAGE ACL REVISION: AN ALGORITHM FOR TREATMENT AND EXPERIENCE OF 106 CASES INCLUDING 34 ELITE ATHLETES**  
Nathan White¹, Avinash Alva², Mary Jones³, Simon Ball¹², Andy Williams¹  
¹Fortius Clinic, London, United Kingdom. ²Chelsea and Westminster Hospital, London, United Kingdom.

0081 – **MENISCAL ALLOGRAFT TRANSPLANTATION: DOES SIZE MATTER?**  
Ciara Stevenson, Ahmed Mahmoud, Francois Tudor, Peter Myers  
Brisbane Orthopaedic Sports Medicine Centre, Brisbane, Australia.

**10.52**  
**Discussion**

**10.58**

**11.04**  
0100 – **MENISCAL ALLOGRAFT TRANSPLANTATION IN THE PAEDIATRIC POPULATION. A CASE SERIES**  
Simon Middleton, Laura Asplin, Ciara Stevenson, Pete Thompson, Tim Spalding  
University Hospital Coventry and Warwickshire, Coventry, United Kingdom.

0064 – **INTRAOPERATIVE MOBILISATION OF SYNOVIAL MESENCHYMAL STEM CELLS TO INCREASE THE REGENERATIVE CAPACITY OF THE KNEE USING A NOVEL DEVICE**  
Alam Khalil-Khan¹, Anthony Theodorides¹, Owen Wall², Elena Jones¹, Dennis McGonagle¹, Thomas Baboolal¹  
¹University of Leeds, Leeds, United Kingdom. ²Leeds Teaching Hospital NHS Trust, Leeds, United Kingdom.

**11.10**

**11.16**  
0010 – **THE ACCURACY OF PLASMA VISCOSITY LEVELS IN THE DIAGNOSIS OF PROSTHETIC JOINT INFECTION AFTER TOTAL KNEE ARTHROPLASTY**  
Andrel Yoong¹, Stefan Bajada¹, Patrick Hourigan¹, Jonathon Phillips¹, Andrew Toms¹  
¹Exeter Knee Reconstruction Unit, Princess Elizabeth Orthopaedic Centre, Royal Devon and Exeter Hospital, Exeter, United Kingdom. ²University of Exeter Medical School, Exeter, United Kingdom.

**11.22**  
**Discussion**

**Richard Parkinson (Wirral) – Introducing**

**11.30**  
NJR – National Joint Registry – Peter Howard (Derby)

**11.45**  
NLR – National Ligament Registry – Tim Spalding (Coventry & Warwick)

**12.00**  
UKKOR – David Elson (Gateshead)

**12.15**  
ODEP and beyond compliance – Andrew Porteous (Bristol)

**12.30**  
Your Personal data on display – David Johnson (Stockport)

**Colin Esler (Leicester) – Introducing**

**12.45**  
Guest Speaker: Piers Mitchell (Peterborough)  
Presentation ‘Musculoskeletal Disease and Trauma in King Richard III’

**13:15**  
**LUNCH** – (Walkers Hall & Reception Lounge – Exhibition / Poster & E-Poster Viewing)

**Moderator: Prof. Leela Biant (Manchester)**  
**Instructional Session 1**  

Can we improve outcome of knee replacement?

**14.00**  
Does prosthetic designs improve outcome? – Prof. Ritchie Gill (Bath)

*(The abstracts relating to the Free Paper Sessions are stated on pages 12 to 21)*
14.20  Surgical philosophies and techniques in TKR – Prof. Andrew Toms (Exeter)

14.40  Patient Selection – how good are we in predicting good or poor results –
       Paul Baker (Middlesbrough)

15.00  Cementation and fixation – Andrew Porteous (Bristol)

15:20  TEA – (Walkers Hall & Reception Lounge – Exhibition / Poster & E-Poster Viewing)

Moderator: Prof. Andrew Toms (Exeter)

Instructional Session 2

Periprosthetic joint infection

15.50  Prevention of infection – Prof. Mike Reed (Northumbria)

16.10  Microbiology and antibiotics – Rhidian Morgan-Jones (Cardiff)

16.30  How to diagnose PJI – Jonathan Phillips (Exeter)

16.50  Surveillance of Surgical Site Infection – Theresa Lamagni (NHS England)

17.10  Discussion

17.15-18.15 AGM – All members of BASK are invited to attend – (Keith Weller Lounge)
       (AGM agenda on page 22)

19.30pm for 20.15pm – Annual Dinner, ‘The National Space Centre’ Leicester
       Entry to the dinner venue is by Ticket ONLY.
       (for delegates who have registered to attend the dinner, your ticket is joined to your delegate badge).

(The abstracts relating to the Free Paper Sessions are stated on pages 12 to 21)
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

WEDNESDAY 21st MARCH

08.00 am REGISTRATION & COFFEE – Reception Lounge & Walkers Hall within the Exhibition area
(Poster & E-Poster viewing)

08.25am Start of 2nd day’s Proceedings – Keith Weller Lounge

Session 3 – Revision Arthroplasty
Moderators: Robert Ashford (Leicester) & Adil Ajuied (London)

08.30 am Free Paper Session:-
0006 – THE EPIDEMIOLOGY OF REVISION TOTAL KNEE AND HIP ARTHROPLASTY IN ENGLAND AND WALES. A COMPARATIVE ANALYSIS WITH PROJECTIONS FOR THE UNITED STATES. A STUDY USING THE NATIONAL JOINT REGISTRY DATASET
Ben Waterson1, Amit Patel1, George Pavlou1, Ruben Mujica-Mota1, Andrew Toms1
1Exeter Knee Reconstruction Unit, Princess Elizabeth Orthopaedic Centre, Royal Devon and Exeter Hospital, Exeter, United Kingdom. 2Royal Stoke University Hospital, Stoke, United Kingdom. 3Wrightington Wigan and Leigh NHS Trust, Wigan, United Kingdom. 4University of Exeter, Exeter, United Kingdom.

08.36
0084 – WHY ARE REVISION KNEE REPLACEMENTS FAILING?
Sanjeev Agarwal1, Rakan Kabariti2, D’Jon Lopez2, Rhidian Morgan-Jones2
1University hospital of Wales, Cardiff, United Kingdom. 2University Hospital of Wales, Cardiff, United Kingdom.

08.42
0075 – A RETROSPECTIVE STUDY TO DETERMINE THE ACCURACY OF HOSPITAL REVISION DATA COMPARED TO THE NATIONAL JOINT REGISTRY FOR PATELLA RESURFACING PROCEDURES FOLLOWING A PRIMARY TOTAL KNEE REPLACEMENT.
Irrum Afzal, John Dabis, Roy Twyman
South West London Elective Orthopaedic Centre, London, United Kingdom.

08.48
0079 – SUCCESSFUL CLINICAL OUTCOME CAN BE ACHIEVED FOLLOWING REVISION OF MEDIAL UNICOMPARTMENTAL KNEE ARTHROPLASTY
Abtin Alvand1,2, Chin Tat Lim1, Robert Middleton1, Hannah Wilson1, Nicholas Bottomley3, William Jackson1, Andrew Price1
1University of Oxford, Oxford, United Kingdom. 2Nuffield Orthopaedic Centre, Oxford, United Kingdom

08.54
0077 – REVISION OF UNICOMPARTMENTAL TO TOTAL KNEE ARTHROPLASTY: DOES THE UNICOMPARTMENTAL IMPLANT (ALL-POLYETHYLENE VERSUS METAL BACKED) IMPACT THE TOTAL KNEE ARTHROPLASTY?
Chloe Scott, Matilda Powell-Bowns, Deborah MacDonald, Philip Simpson, Frazer Wade
Royal Infirmary of Edinburgh, Edinburgh, United Kingdom.

09.00
0016 – METAPHYSSEAL SLEEVES IN REVISION TOTAL KNEE ARTHROPLASTY AT MIDTERM FOLLOW-UP.
Devdatta Neogi, Sanjeev Agarwal, Rhidian Morgan-Jones
University Hospital Llandough, Cardiff and Vale University Health Board, Cardiff, United Kingdom

09.06 Discussion

Session 4 – Miscellaneous
Moderators: Caroline Hing (London) & Urjit Chatterji (Leicester)

09.18 Free Paper Session:-
0025 – MIDTERM OUTCOMES OF ANTERIOR CRUCIATE LIGAMENT RECONSTRUCTION AND STAGED OR SIMULTANEOUS MEDIAL UNICOMPARTMENTAL KNEE REPLACEMENT
James Molloy1, James Kennedy2, Chris Dodd3, David Murray4
1University of Notre Dame, Sydney, Australia. 2University of Oxford, Oxford, United Kingdom. 3Nuffield Orthopaedic Centre, Oxford, United Kingdom

(The abstracts relating to the Free Paper Sessions are stated on pages 12 to 21)
09.24 0015 – MID TO LONG TERM OUTCOMES OF THE AVON PATELLO-FEMORAL JOINT REPLACEMENT
Simon Middleton, Andrew Toms, Peter Schranz, Vipul Mandalia
Exeter Knee Reconstruction Unit, Princess Elizabeth Orthopaedic Centre, Royal Devon and Exeter Hospital, Exeter, United Kingdom.

09.30 0104 – SUCCESSFUL CLINICAL RESULTS OF A FOCAL INDIVIDUALISED MINI-METAL IMPLANT FOR FOCAL CARTILAGE LESIONS IN THE KNEE.
Tim Spalding¹, Ciara Stevenson¹, Martin Lind², Karl Eriksson¹, Tobias Jung³, Geir Histøl¹, Pieter Emans⁶, Johannes Holz⁷
¹University Hospital Coventry, Coventry, United Kingdom. ²Division of Sportstraumatology, Dept.Orthopedics, Aarhus University Hospital, Aarhus, Denmark. ³Dept.of Orthopedic Surgery, Stockholm South Hospital, Karolinska Institute, Stockholm, Sweden. ⁴Virchow-Klinikum, Unfallchirurgie & Orthopädie, Sektion Sporttraumatologie & Arthroskopie, Berlin, Germany. ⁵Dept. Orthopedic Surgery, Vestre Viken, Drammen, Germany. ⁶Dept. of Orthopedics, Maastricht UMC, Maastricht, Netherlands. ⁷OrthoCentrum, Park-Klinik, Münchberg, Germany.

09.36 0007 – DOES COMPLEX REGIONAL PAIN SYNDROME REALLY OCCUR FOLLOWING TOTAL KNEE ARTHROPLASTY? – A PROSPECTIVE STUDY OF 100 PATIENTS USING CURRENT DIAGNOSTIC CRITERIA
Jonathon Kosy, Simon Middleton, Bradley Ben, Rowenna Stroud, Jonathon Phillips, Andrew Toms
Exeter Knee Reconstruction Unit, Princess Elizabeth Orthopaedic Centre, Royal Devon and Exeter Hospital, Exeter, United Kingdom.

09.42 0039 – CONSENT PLUS – IMPROVING THE CONSENT PROCESS IN ELECTIVE LOWER LIMB ARTHROPLASTY
Amit Chandratreya, Paul Lee
Princess of Wales Hospital, Bridgend, USA.

09.48 0019 – RATES OF ARTHROSCOPIC KNEE SURGERY ARE DECLINING IN ENGLAND – RESULTS FROM A REVIEW OF THE NATIONAL HOSPITAL EPISODE STATISTICS
Simon Abram, Andrew Judge, David Beard, Andrew Price

09.54 Discussion
10.05 COFFEE – (Walkers Hall & Reception Lounge – Exhibition / Poster & E-Poster Viewing)

Session 5 – Short Poster Presentations
Moderators: Prof. Andrew Price (Oxford) & Ram Venkatesh (Leeds)

10.30 Short Poster Session:
0071 – CHEMICAL THROMBOPROPHYLAXIS IN PRIMARY JOINT REPLACEMENT – IS IT WORTH THE BLEEDING BOTHER? RISK STRATIFICATION IN JOINT REPLACEMENT IS AS EFFECTIVE, AND SAFER, THAN DRUGS FOR ALL. RESULTS IN 13,472 PATIENTS.
Peter Cay, Sukhdeep Gill, Randeep Karwal, Andrea Pearce, Nigel Rossiter
Basingstoke and North Hampshire Hospital, Basingstoke, United Kingdom.

10.32 Discussion
10.33 0037 – A SIMPLE VISUAL AID INCREASES KNEE FLEXION AFTER A PRIMARY KNEE REPLACEMENT
Leonid Kandel, Oriel Ratson, Yoav Mattan, Meir Liebergall, Gurion Rivkin
Hadassah-Hebrew University Medical Center, Jerusalem, Israel.

10.35 Discussion
10.36 0013 – PSYCHOMETRIC ASSESSMENT OF ARTHROSCOPIC SURGEONS
Justin Johnson¹, David Johnson²
¹Musgrove Park Hospital, Taunton, United Kingdom. ²Bristol Orthopaedic Clinic, Bristol, United Kingdom.

10.38 Discussion
10.39 0035 – CANDIDACY AND SURVIVORSHIP FOR MEDIAL-MENISCAL BEARING UNICOMPARTMENTAL KNEE REPLACEMENT BY AGE
James Kennedy¹, Stephen Mellon¹, Adolph Lombardi¹, Keith Berend², Thomas Hamilton¹, David Murray¹
¹University of Oxford, Oxford, United Kingdom. ²Joint Implant Surgeons, Inc, New Albany, USA.

10.41 Discussion

(The abstracts relating to the Free Paper Sessions are stated on pages 12 to 21)
10.42 0028 – 1-YEAR OUTCOMES OF MEDIAL PATELLOFEMORAL LIGAMENT RECONSTRUCTION WITH TIBIAL TUBEROSITY DISTALISATION FOR PATIENTS WITH RECURRENT PATELLOFEMORAL INSTABILITY AND PATELLA ALTA
Ashley Brown, Gaynor Kanes, Andrew Barnett
The Robert Jones and Agnes Hunt Orthopaedic Hospital, Oswestry, United Kingdom.

10.44 Discussion

10.45 0027 – INTRODUCING DAYCASE SURGERY INTO AN ENHANCED RECOVERY PROGRAMME FOR UNICOMPARTIMENTAL KNEE REPLACEMENT WITHIN THE NHS SETTING: SUITABLE FOR ALL? THE RESULTS OF A SERVICE IMPROVEMENT PROJECT AND LESSONS LEARNED.
Cathy Jenkins¹, William Jackson¹, Nicholas Bottomley¹, Andrew Price¹,², David Murray¹,², Karen Barker¹,²
¹Nuffield Orthopaedic Centre, Oxford, United Kingdom. ²Nuffield Department of Orthopaedics, Rheumatology and Musculoskeletal Sciences, Oxford, United Kingdom.

10.47 Discussion

10.48 0066 – IS MRI USEFUL IN DIAGNOSING INTRA-ARTICULAR KNEE PATHOLOGY IN CHILDREN AND ADOLESCENTS?
Stephanie Buchan, Sarah Murgatroyd, Joanna Thomas
Southampton Children’s Hospital, Southampton, United Kingdom.

10.50 Discussion

10.51 0095 – COMBINED INTRAVENOUS AND TOPICAL TRANEXAMIC ACID WITH 30 MINUTES DRAIN CLAMP IS MORE EFFECTIVE THAN SINGLE DOSE TRANEXAMIC ACID, DUAL DOSE INTRAVENOUS TRANEXAMIC ACID OR COMBINED INTRAVENOUS AND TOPICAL TRANEXAMIC ACID IN REDUCING BLOOD LOSS FOLLOWING TOTAL KNEE REPLACEMENT.
Abdelaleem Ragab¹, Vinayak Ghanate¹, Hatim Cochin¹, Shaival Dalal¹, Amit Chandratreya¹, Rahul Kotwal¹
¹Princess of Wales Hospital, Bridgend, Wales, United Kingdom. ²Cardiff University, Cardiff, United Kingdom.

10.53 Discussion

10.54 0088 – VALIDATION OF REVISION DATA FOR TOTAL KNEE REPLACEMENTS UNDERTAKEN AT A HIGH VOLUME ORTHOPAEDIC CENTRE USING HOSPITAL AND NATIONAL JOINT REGISTRY DATA.
Irrum Afzal, Roy Twyman, Richard Field
South West London Elective Orthopaedic Centre, London, United Kingdom.

10.56 Discussion

Moderator: Andrew Porteous (Bristol)

11.00 Update on cartilage repair and cartilage registry – Prof. Leela Biant (Manchester)

11.20 Report from BASK meniscal working group – Prof. Andrew Price (Oxford)

11.40 Travelling fellow’s report – Stephen McDonnell

Colin Esler (Leicester) – Introducing

12.00 ‘Lorden Trickey Lecture’
Guest Lecturer: - Dr. Wolfgang Klauser (Helios Baltic Sea Clinic, Germany)
Presentation: - Principles of Revision Knee Arthroplasty

12.40 LUNCH – (Walkers Hall & Reception Lounge – Exhibition / Poster & E-Poster Viewing)

Moderator: Guido Guetjens (Derby)

Instructional Session 3

13.20 Why and how do ACL grafts fail – Prof. Martin Snow (Birmingham)

13.40 Clinical assessment and investigations – Adil Ajuied (London)

14.00 Surgical planning for revision and graft choice – James Murray (Bristol)

14.20 Pitfalls and tips – Tim Spalding (Coventry Warwick)

(The abstracts relating to the Free Paper Sessions are stated on pages 12 to 21)
Moderator: Sanjeev Anand (Leeds)

14.40  NIHR projects – SNAP (ACL) – Prof. David Beard (Oxford)
14.55  BASK research strategies – Prof. Andrew Toms (Exeter)
15.10  TEA – (Walkers Hall & Reception Lounge – Exhibition / Poster & E-Poster Viewing)

Session 6 – Osteotomy and others
Moderators: David Elson (Gateshead) & David Johnson (Stockport)

15.30  Free Paper Session:-
0092 – STATIC STRENGTH OF HIGH TIBIAL OSTEOTOMY WITH AND WITHOUT GRAFT MATERIALS: A BIOMECHANICAL STUDY
John Dabis, James Belsey, Raghbir Khakha, Sam Yasen, Mike Risebury, Adrian Wilson
Basingstoke & North Hampshire NHS Trust, Basingstoke, United Kingdom.

15.36  0096 – THE USE OF BONE WEDGE ALLOGRAFT IN HIGH TIBIAL OSTEOTOMY: A PROSPECTIVE STUDY OF PAIN AND TIME TO UNION
John Dabis, Raghbir Khakha, James Belsey, Sam Yasen, Mike Risebury, Adrian Wilson
Basingstoke & North Hampshire NHS Trust, Basingstoke, United Kingdom.

15.42  0026 – EFFECT OF BMI ON THE LONG-TERM OUTCOMES OF MEDIAL MENISCAL-BEARING UNICOMPARTMENTAL KNEE REPLACEMENT
James Molloy1, James Kennedy2, Chris Dodd3, David Murray
1University of Notre Dame, Sydney, Australia. 2University of Oxford, Oxford, United Kingdom.
3Nuffield Orthopaedic Centre, Oxford, United Kingdom.

15.48  0009 – ALLERGY IN TOTAL KNEE ARTHROPLASTY. A REVIEW OF THE FACTS
Simon Middleton, Andrew Toms
Exeter Knee Reconstruction Unit, Princess Elizabeth Orthopaedic Centre, Royal Devon and Exeter Hospital, Exeter, United Kingdom.

15.52  0033 – STUD DESIGN OF SPORTS FOOTWEAR AFFECTS GROUND REACTION FORCES IN CUTTING AND CROSS-CUTTING EXERCISE.
Daniel Winson1,2, Dario Cazzola2, Owen Lawrence1, Ian Winson1, Andrew Davies1
1Morriston Hospital, Swansea, United Kingdom. 2University of Bath Sports Medicine Department, Bath, United Kingdom.
3University of Bath Applied Biomechanics Suite, Bath, United Kingdom. 4Southmead Hospital, Bristol, United Kingdom.

15.58  0078 – RADIOGRAPHIC METHOD
Robert Keehan1, Amarit Gill2, Lindsay Smith1, Riaz Ahmad1, Jonathan Eldridge1
1Weston General Hospital, Weston super Mare, United Kingdom. 2University of Bristol, Bristol, United Kingdom.
3University Hospitals Bristol NHS Trust, Bristol, United Kingdom.

16.04  0046 – 2D/3D EOS IMAGING VERSUS STANDING LONG LEG X-RAY IN LOWER LIMB CLINICAL ASSESSMENT – INTER-OBSERVER AND INTRA-OBSERVER RELIABILITY
Melinda YT Hau1, Dipen K Menon1, Ronald Chan2, Kwong Yin Chung2, Wai Wang Chau1, Ki Wai Ho2
1Kettering General Hospital, United Kingdom, 2Prince of Wales Hospital, Hong Kong, 3Dept of ORT, CUHK, Hong Kong

16.10  Discussion

16.22  Presentation of Awards for 2018
Prizes awarded for the ‘Best 2018 Podium, Poster & E-Poster Presentations’.
Golf Trophy

16.30  Closing Remarks – President, Colin Esler (Leicester)

16.45  Close of the ‘2018 BASK Annual Spring Meeting’

(The abstracts relating to the Free Paper Sessions are stated on pages 12 to 21)
0067 – ANALYSIS OF THE ATTUNE TIBIAL BACKSIDE: A COMPARATIVE RETRIEVAL STUDY
Arianna Cerquiglini1, Johann Henckel1, Harry Hothi3, Paul Allen2, James Lewis5, Tim Wilton4, Antti Eskelinen6, Michael T. Hirschmann7, Aliester J. Hart1
1University College London and the Royal National Orthopaedic Hospital, Stanmore, United Kingdom. 2Princess Alexandra NHS Trust, Harlow, United Kingdom. 3Goring Hall Hospital, Goring By Sea, United Kingdom. 4Royal Derby Hospital, Derby, United Kingdom. 5The Coxa Hospital for Joint Replacement, Tampere, Finland. 6University of Basel and Department of Orthopaedic Surgery and Traumatology, Kantonsspital Baselland, Basel, Switzerland.

Introduction: Retrieval analysis of early revisions of Beyond Compliance implants can help identify common failure mechanisms and improve the performance of newly introduced designs. In the present study (1) compared the amount of cement attachment to the tibial trays of retrieved Attune total knee replacements (TKRs), with that of another design from the same manufacturer (PFC, DePuy).

Material and Methods: We examined 6 Attune, 9 titanium PFC Sigma, 5 Benjaminium PFC Sigma and 6 cobalt chromium PFC Sigma Rotating Platform implants. We used a peer-reviewed digital imaging method to quantify the amount of cement attachment to the backside of each tibial tray. We then measured (1) the size of tibial tray thickness, tray projections, peripheral lips and undercuts (2) surface roughness (Ra) on the backside and keel of the trays. Statistical analyses were performed to investigate differences between the two designs.

Results: There was no evidence of cement attachment on all 6 Attune trays examined, whilst a median (range) of 36% (0%-66%) of the surface area of the backside of the PFC trays showed cement attachment; this difference was statistically significant, p=0.004. There were significant differences between the design features investigated between the two implant designs (p<0.05).

Conclusions: Our retrieval study is the first to compare cement attachment of the Attune TKR with that of another design. There was no cement attachment to any of the Attune tibial trays examined; this common retrieval finding may help us understand a mechanism of failure related to component loosening.

0074 – MINIMUM TEN-YEAR SURVIVORSHIP AND PATIENT-REPORTED OUTCOMES OF A SINGLE-RADIUS, CRUCIATE RETAINING TOTAL KNEE ARTHROPLASTY
Chloe Scott, Katrina Bell, Richard Ng, Deborah MacDonald, James Patton, Richard Weatherley, Kim Miles, Richard Goddard, Adrian Butler-Manuel
East Sussex Healthcare NHS Trust, St Leonards on Sea, United Kingdom.

Introduction: The AGC Total Knee System introduced in 1983, has demonstrated excellent long-term survivorship rates of 95.88% at 15 years and 92.4% at 30 years. Based on the proven heritage of AGC platform, the Vanguard Knee System was introduced incorporating additional features including greater modularity. We report three to five-year comparative results of the same.

Materials and Methods: A randomised control study was designed recruiting 300 patients from November 2011 to July 2014. Patients were followed up post operatively at 6 weeks, 6 months, 1 year and yearly thereafter. Clinical and functional assessments including range of movement, HSS Knee Score, Oxford Knee Score (OKS), AKSS and the Noble & Weiss score were recorded and statistically analysed.

Results: As of September 2017, 230 patients were reviewed at the 3 years and 124 patients at the 5-year follow-up. At the 3-year follow-up, there was no significant difference noted in the Range of movement (Average 0.57°-118.56° (AGC), 0.77°-121.54° (Vanguard)), HSS score (Mean 88.3 vs 86.20, p = 0.30), OKS (Mean 37.14 vs 38.81, p = 0.25) and Cumulative AKSS (Mean 36.0±10.1 (p<0.001) and was maintained at 33.5 ±9.6 at 10 years when the Kaplan–Meier demonstrated 10-year survival of 97.7% (95% CI 96.1-99.3%) for aseptic loosening (symptomatic radiographic or clinical, and under the supervision of the senior author. Data was analysed independently by 2 other authors. Oxford Knee Scores were captured using independent NHS PROMS data.

The primary endpoint was revision, defined as removal of the femoral, tibial or patellar components. Re-operation included debridement with exchange of polyethylene insert, secondary resurfacing of the patella and manipulation under anaesthesia.

At 2 years, survivorship of the Attune using revision as the endpoint was 100%, and 98.0% at 5 years. The PFC Sigma had a survivorship of 98.6% at 2 years, and 98.0% at 5 years. This was statistically significant (p=0.02).

At short term follow-up, the Attune has superior survivorship and similar clinical outcome compared to the PFC Sigma.
0004 – THE ROTATIONAL KINEMATICS OF ARTHRITIC AND REPLACED KNEES FOLLOWING COMPUTER-AIDED TOTAL KNEE ARTHROPLASTY
Kamal Deep, Nanjundappa S Harshvardhana, Carlo Menna, Angela Deakin, Frederic Picard
Golden Jubilee National Hospital, Clydebank, Glasgow, United Kingdom.

Introduction: Coronal alignment has been studied in normal/arthritic/arthroplasty knees. The rotational kinematics however, are not as clear. We therefore studied the rotational kinematics of arthritic and arthroplasty knees following computer-aided total knee arthroplasty (CA-TKA).

Methods: Ninety-one (70Varus; 17Valgus; 4Neutral pre-operative coronal alignment) cruciate retaining CA-TKA performed in 41;50;9 constituted the study cohort. Computer navigation was used as measurement tool for rotation between femur and tibia. Starting from full extension, the changes in rotation during 30°; 60°; 90° and full flexion before and after CA-TKA were evaluated.

Results: The mean age and BMI were 66.3±7.8 years and 31.2±6.4. Preoperatively, there was a tendency for all knees to go into internal rotation from full extension to 30° flexion (unlocking/Screw home). Beyond 30°, there was a reversal of rotation into External rotation between 30°-90° for valgus knees (mean: 2.5±4.2°). The varus knees interestingly rotated externally by only 0.6±3.5° between 30°-60° and thereafter either remained neutral or rotated internally. Postoperatively both varus and valgus knees rotated internally when passively flexed from full extension. There was an increase in total range of rotation (RoR) following TKA in both varus (15.2±7.9°, n=18; 3.3±9.6°) and valgus (14.6±15.2° to 20.6±18.7°) knees with no statistically significant difference between varus vs. valgus knees (p=0.54).

Discussion: Varus and valgus arthritic knees had different rotational kinematics preoperatively, which changed after TKA. The total RoR increased after surgery. Further studies are needed to understand the significance of rotational kinematics to optimize functional outcomes.

0024 – OUTCOMES OF ALLOGRAFT MEDIAL PATELLOFEMORAL LIGAMENT RECONSTRUCTION (MPFL) IN CHILDREN & ADOLESCENTS WITH JOINT HYPERMOBILITY
Gautam Reddy, Nisarg Mehta, nameer Choudhry, coline Bruce, Nick Barton-Hanson
Alder Hey Hospital, Liverpool, United Kingdom.

Background: Medial patellofemoral ligament (MPFL) reconstruction is one of several procedures used to treat patellofemoral instability. Use of allograft can preserve native tissue and can be advantageous in patients with connective tissue disorders or ligamentous laxity. There is limited evidence in the literature regarding functional outcomes of allograft MPFL reconstruction. The aim of this study was to assess the mid-term outcomes of allograft MPFL reconstruction in a tertiary paediatric orthopaedic centre.

Methods: A prospectively collected data was reviewed in all children and adolescents underwent allograft MPFL reconstruction over a 4 year period. The primary outcome measure was the validated Kujala score for patellofemoral disorders. Secondary outcome measures included complications, redislocation of the patella & return to the theatre.

Results: Between 2012 and 2016 one surgeon performed 76 allograft MPFL reconstructions in 57 patients. 19 patients had bilateral surgery. The mean age was 14 (7-17) with a female: male ratio of 3:1 and a mean Beighton score of 7. 10/57 patients had a syndrome attributing to their hypermobility. Mean follow-up was 3 years (1-4). Nine patients had trochleoplasty as well as conventional MPFL reconstruction. The mean Kujala score was 90 (80-100). The overall complication rate was 11% (9/76). There were two patella fractures. 7 patients required revision surgery for failure (9%). There was no significant difference in complications between syndromic and non-syndromic patients (p=0.09).

Conclusion: This is the first study reporting good mid-term functional outcomes with allograft MPFL reconstruction in children & adolescents with hypermobility, however, long-term follow-up studies are required.

0099 – PATIENT SATISFACTION AND PROMS IN COMPUTER NAVIGATED VS. NON-NAVIGATED TOTAL KNEE REPLACEMENTS (TKR)
Kamal Deep1, Kumar Kaushik Dash1, Shivakumar Shankar2, Frederic Picard1, Alistair Ewen1
1Golden Jubilee National Hospital, Clydebank, Glasgow, United Kingdom.
2Queen’s Hospital, Romford, United Kingdom.

Background: Literature and registry-data show up to 20% dissatisfaction rate for total knee replacements (TKR). We decided to analyse patient satisfaction and PROMs (Oxford Knee Score (OKS)) in our high-volume arthroplasty unit and also compare between navigated and non-navigated techniques.

Methods: Following power calculation, we included 229 patients in each group (238 bilateral knees in navigated, 239 in non-navigated). Same protocols were followed for all. Both groups were similar pre-operatively (Navigated: 238 bilateral knees in navigated, 239 in non-navigated). Same protocols were followed for all. Both groups were similar pre-operatively (Navigated: 68 years (59.6, IQR: 52.8 (50); 74.8 (75.5, 81.6)), OKS: 41.55 (37.45). Non-navigated: 68 years (59.6, IQR: 52.8 (50); 74.8 (75.5, 81.6)), OKS: 41.55 (37.45). Satisfaction was enquired as very satisfied, satisfied, unsure or dissatisfied.

Results: In 238 navigated knees, 227 (95.4%) were very satisfied or satisfied, 9 (2.9%) unsure or dissatisfied. The navigated group showed better satisfaction (p=0.009, Chi-Square Test) compared to the non-navigated. Even in the non-navigated group, our satisfaction data is similar to high-end of the published data. There were no differences in 6-week-OKS between navigated and non-navigated groups (Navigated: 28.48 (sd7.8); conventional: 29.51 (sd8.1); p=0.44, Analysis of Covariance). The same was also true for range of flexion/extension (p=0.36) and length of hospital stay (p=0.399) in the two groups. There was no difference in 6-week-OKS between implant subtypes as well (p=0.25).

Conclusion: A modern elective arthroplasty service can deliver high satisfaction rates in TKR. Use of computer navigation further improves patient satisfaction from the best conventional satisfaction rates.

1 Authors of the PODIUM presentations (Free Paper sessions) were invited to submit an E-Poster of their presentation. The E-Posters are displayed on screens within the exhibition area (Walkers Hall & Reception Lounge). You can search and view individual E-Posters using the touch screen in the exhibition area, Walkers Hall.
Free Paper Session 2 – Soft Tissue Knee Surgery

0091 – MENISCAL ALLOGRAFT TRANSPLANTATION IN THE PAEDIATRIC POPULATION. A CASE SERIES
Simon Middleton, Laura Asplin, Ciara Stevenson, Pete Thompson, Tim Spalding
University Hospital Coventry and Warwickshire, Coventry, United Kingdom.
Purpose: Symptomatic paediatric patients following meniscal resection for injury or discoid meniscus are a challenging group. Meniscus Allograft transplantation (MAT) is an effective treatment in adults but there is scant data in paediatric patients with questions on timing, indications and outcomes.
We aim to report on a specific series of paediatric MAT.
Methods: Patients aged 18 or under at the time of MAT were analysed from our prospective MAT database of 250 patients.
Results: 18 patients were included, 11 female and 7 male patients. Mean age 16 (range 9-18), 11 right knee, 7 lateral. The average wait (time of listing to transplant) was 10 months (range 4-22 months). Additional procedures were 1 high tibial osteotomy, 1 ACL reconstruction, 1 MACI graft and 3 microfracture procedures. Mean follow up is 3.3 years (range of 0.7 to 7.0), 15 have follow up of over 1 year (average 3.8 range 1.2 to 7.0). Preop IKDC score was 39.2 indicating severe symptoms and mean duration from initial injury to MAT was 43 months (range 11-120) Mean post op IKDC was 69 at 1 year. All modalities of the KOOS increased from baseline. There were no cases of graft failure, four required secondary surgical intervention and no cases of superficial or deep infection.
Conclusion: Meniscal allograft transplant in children when performed in the presence of high level of symptoms and functional limitations can result in sustained clinical improvement. MAT should be considered as an important early option for symptomatic meniscal deficiency in paediatric patients.

0064 – INTRAOPERATIVE MOBILISATION OF SYNOVIAL MESENCHYMAL STEM CELLS TO INCREASE THE REGENERATIVE CAPACITY OF THE KNEE USING A NOVEL DEVICE
Alam Khalil-Khan1, Anthony Theodorides2, Owen Wall2, Elena Jones1, Dennis McDonagle1, Thomas Baboolal1
1University of Leeds, Leeds, United Kingdom. 2Leeds Teaching Hospital NHS Trust, Leeds, United Kingdom.
Introduction: The joint contains populations of mesenchymal stem cells (MSCs) that may contribute to cartilage repair. Irrigation during arthroscopy likely removes these MSCs. The purpose of this study was to develop a novel device with an abrasive surface to safely mobilise MSCs from the synovium. The long-term aim, to utilise native synovial MSCs in single-stage repair strategies.
Methods: Joint fluid MSC number, phenotype and functionality was assessed pre- and post-synovial mobilisation in subjects undergoing knee arthroscopy. Adhesion between mobilised MSCs and fibrin was also evaluated to ascertain whether mobilised MSCs might concentrate at site of bleeding.
Results: Irrigation during arthroscopy depleted synovial fluid MSCs (4-fold decrease, n=15). MSCs numbers were significantly higher when cells were mobilised from the synovium with our purpose made device compared to a donor device.

0081 – MENISCAL ALLOGRAFT TRANSPLANTATION: DOES SIZE MATTER?
Ciara Stevenson, Ahmed Mahmoud, Francois Tudor, Peter Myers
Brisbane Orthopaedic Sports Medicine Centre, Brisbane, Australia.
Purpose: To assess long-term survivorship of meniscal allograft transplantations in children and determine the effect that pre-operative sizing has upon functional outcome and mechanical survivorship.
Methods: A prospectively collected database including patients receiving MAT from 2001 to 2017 was analysed. Data includes demographic information, meniscal sizing measurements, complications and patient reported outcome measures (PROs). All allografts were sized using the Puller technique.
Results: 73 transplants were performed in 67 patients; mean age at transplant was 34 years (range 14-52 years). The mean follow-up was 75 months (6.25 years). Mechanical survival at 5 and 10yrs was 96% and 89.4% respectively. There was statistically significant improvements in all PROM’s; mean Lysholm score improved by 17.5 points, mean IKDC improved by 13.3 points, mean OKS improved by 5.6 points and the Tegner by 0.9 points. 41 MAT’s were undersized for width (range 1-11mm). 7 MAT’s were undersized for length (range 1-4mm). There was a negative correlation between width and length i.e. if a graft was undersized in width it was oversized in length to replicate the circumference of the native meniscus.
There was no statistically significant difference in mechanical survivorship or clinical outcomes between undersized, matched or oversized grafts. However, subgroup analysis demonstrated increased failure of allografts undersized by more than 5mm in width.
Conclusions: MAT is an effective treatment to improve function and alleviate pain with excellent survivorship in this series. Accepting an allograft that is more than 5mm smaller in width than pre-operative templating increases the likelihood of clinical and mechanical failure.

0049 – SINGLE STAGE ACL REVISION: AN ALGORITHM FOR TREATMENT AND EXPERIENCE OF 106 CASES INCLUDING 34 ELITE ATHLETES
Nathan White1, Avinash Alva1, Mary Jones1, Simon Ball1,2, Andy Williams1
1Fortius Clinic, London, United Kingdom. 2Chelsea and Westminster Hospital, London, United Kingdom.
Introduction: There is a high failure and recurrence rate, up to 20%, in patients under the age of 18 years undergoing ACL reconstruction. Non-operative treatment will result in persistent instability resulting in chondral/ meniscal injuries. There are increasing concerns of growing plate disturbance with trans-physyal techniques and issues with relatively small diameter grafts in Tanner 1 and 2 patients, which are inadequate. With advancing instrumentation, such as 3.5 mm tunnel drilling, repair and subsequent preservation of the native ACL has become a viable option. The minimally invasive approach of arthroscopic primary ACL repair retains the native ligament. We present our early two-year results.
Methods: Fifteen patients (aged 6 to 16 years) with complete proximal ACL ruptures underwent direct arthroscopic ACL repair reinforced by a temporary internal brace. Patient reported outcome measures were collected at 6 months, 1-year and 2-years post-operatively.
Results: Seven patients completed data at 1-year, 8 patients completed data at 2-years post-operatively. Examination, second-look arthroscopy, and imaging at 3 months confirmed knee stability and complete ACL healing in all cases. There were no complications or graft failures. The minimal donor site morbidity and potential morbidity of graft harvest and demonstrates the requirement and potential morbidity of graft harvest and demonstrates the potential for excellent outcome as an attractive alternative to ACL reconstruction, where an adequate ACL remnant permits direct repair.

0100 – MENISCAL ALLOGRAFT TRANSPLANTATION: AN ALGORITHM FOR TREATMENT WITH LOW FAILURE RATE. WE BELIEVE SINGLE STAGE REVISION PRESENTS AN ATTRACTIVE OPTION IN SELECTED CASES, WHICH MAY OTHERWISE HAVE BEEN CONSIDERED FOR STAGED SURGERY.
Simon Middleton, Laura Asplin, Ciara Stevenson, Pete Thompson, Tim Spalding
University Hospital Coventry and Warwickshire, Coventry, United Kingdom.
Purpose: To assess long-term survivorship of meniscal allograft transplantation (MAT) and determine the effect that pre-operative sizing has upon functional outcome and mechanical survivorship.
Methods: A prospectively collected database including patients receiving MAT from 2001 to 2017 was analysed. Data includes demographic information and direct contact.
Results: 1 high tibial osteotomy, 1 ACL reconstruction, 1 MACI graft and 3 microfracture procedures. Mean follow up is 3.3 years (range of 0.7 to 7.0), 15 have follow up of over 1 year (average 3.8 range 1.2 to 7.0). Preop IKDC score was 39.2 indicating severe symptoms and mean duration from initial injury to MAT was 43 months (range 11-120) Mean post op IKDC was 69 at 1 year. All modalities of the KOOS increased from baseline. There were no cases of graft failure, four required secondary surgical intervention and no cases of superficial or deep infection.
Conclusion: MAT is an effective treatment to improve function and alleviate pain with excellent survivorship in this series. Accepting an allograft that is more than 5mm smaller in width than pre-operative templating increases the likelihood of clinical and mechanical failure.

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cytology brush [median of 5,763 and 54 colonies respectively, p<0.001, n=15]. The mobilised cellular fraction contained MSCs with proliferative potential and trilineage differentiation for bone, cartilage and fat and cultured daughter cells exhibited the ISCT defined MSC phenotype. Mobilised synovial MSCs also adhered to various clots in vitro, supporting a role for integration into microfracture sites or targeted repair using fibrin base scaffold. The device was simple and convenient to use and not associated with any complications.

**Conclusions:** Numbers of functional MSCs can be greatly increased during arthroscopy using our purpose made device. Opening up the prospect of single stage stem cell procedures for cartilage and other joint defects with synovial derived MSCs that can be undertaken during many arthroscopic procedures.

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**0010 – THE ACCURACY OF PLASMA VISCOSITY LEVELS IN THE DIAGNOSIS OF PROSTHETIC JOINT INFECTION AFTER TOTAL KNEE ARTHROPLASTY**

Andrew Yonge1, Stefan Bajada1, Patrick Hourigan1, Jonathon Phillips1, Andrew Toms2

1Exeter Knee Reconstruction Unit, Princess Elizabeth Orthopaedic Centre, Royal Devon and Exeter Hospital, Exeter, United Kingdom. 2University of Exeter Medical School, Exeter, United Kingdom.

**Background:** The incidence of prosthetic joint infection (PJI) following total knee arthroplasty (TKA) ranges from 1.1% – 12.4%. Haematological screening for infection via the ESR is commonly used and reported in the literature, but a more cost-effective alternative is plasma viscosity (PV). This study sought to investigate the value of PV in the diagnosis of PJI after TKA and to identify the optimal levels of PV to aid diagnosis in conjunction with CRP.

**Methods:** 310 patients who underwent revision for a painful knee replacement were evaluated. 102 patients were infected, 208 patients were not. Serum investigations including ESR, CRP and PV were analysed using receiver observer curves and optimal cut-off points identified.

**Results:** There was a strong correlation between PV and both ESR (Pearson’s r=0.735, P<0.001) and CRP (Pearson’s r=0.712, P<0.001). The area under curve (AUC) was 0.814 for PV and 0.812 for ESR. The lower bound of the 90% confidence interval of the difference in AUC between PV and ESR is -0.065. This is greater than the non-inferiority margin of -0.10 indicating non-inferiority of PV in PJI as compared to ESR.

A PV value of ≥1.81 had the best efficiency of 81.4%. Combining this with a CRP >13.5 in an AND-AND approach yielded the highest specificity of 97.9% and positive likelihood ratio of 22.7. Sensitivity was 47.9% and a negative likelihood ratio of 0.53.

**Conclusion:** PV is an adequate test to aid in the diagnosis and exclusion of infection in PJI after TKA.

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**BASK 2018 Podium Presentations Wednesday 21st March**

**Free Paper Session 3 – Revision Arthroplasty**

**0006 – THE EPIDEMIOLOGY OF REVISION TOTAL KNEE AND HIP ARTHROPLASTY IN ENGLAND AND WALES. A COMPARATIVE ANALYSIS WITH PROJECTIONS FOR THE UNITED STATES. A STUDY USING THE NATIONAL JOINT REGISTRY DATABASE**

Ben Waterson1, Amit Patel2, George Pavlou2, Ruben Mujica-Mota3, Andrew Toms4

1Exeter Knee Reconstruction Unit, Princess Elizabeth Orthopaedic Centre, Royal Devon and Exeter Hospital, Exeter, United Kingdom. 2Royal Stoke University Hospital, Stoke, United Kingdom. 3Wrightington Wigan and Leigh NHS Trust, Wigan, United Kingdom. 4University of Exeter, Exeter, United Kingdom.

**Introduction:** Total knee arthroplasty (TKA) and total hip arthroplasty (THA) are recognised and proven interventions for patients with advanced arthritis. Studies to date have demonstrated a steady increase in the requirement for primary and revision procedures. Projected estimates made for the United States show that by 2030 the demand for primary TKA will grow by 673% and for revision TKA by 601% from the level in 2005. For THA the projected estimates are 174% and 137% for primary and revision surgery, respectively. The purpose of this study was to see if those predictions were similar for England and Wales.

**Materials and Methods:** Data from the National Joint Registry and the Office of National Statistics for England and Wales was analysed.

**Results:** Analysis suggests that by 2030, the volume of primary and revision TKAs will have increased by 117% and 332%, respectively between 2012 and 2030. The data for the United States translates to a 306% cumulative rate of increase between 2012 and 2030 for revision surgery, which is similar to our predictions for England and Wales. The predictions from the United States for primary TKA were similar to our upper limit projections. For THA, we predicted an increase of 134% and 31% for primary and revision hip surgery, respectively.

**Conclusions:** Our model highlights the economic burden of arthroplasty in the future in England and Wales as a real and unaddressed problem. This will have significant implications for the provision of health care and the future management of orthopaedic services.

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**0084 – WHY ARE REVISION KNEE REPLACEMENTS FAILING?**

Sanjeev Agarwal1, Rakan Kabariti2, D’Jon Lopez3, Rhidian Morgan-Jones4

1University Hospital of Wales, Cardiff, United Kingdom. 2University Hospital of Wales, Cardiff, United Kingdom. 3University of Exeter, Exeter, United Kingdom.

The number of knee revisions worldwide has been increasing steadily. While being complex and expensive operations, a high percentage of knee revisions fail early. We retrospectively evaluated 95 patients following knee revision surgery, who underwent further knee revision operation. The cause of failure was infection in 29.5%, followed by aseptic loosening in 27.5%, instability in 11.4%, persistent stiffness in 9.5%, ongoing pain in 6.6%, extensor mechanism problems in 4.7% and one patient was re-revised for suspected metal allergy. 63% of knee revision failures were within the first 30 months after surgery. Improving outcomes for infection management and improved fixation methods will help reduce failed knee revisions.

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**0075 – A RETROSPECTIVE STUDY TO DETERMINE THE ACCURACY OF HOSPITAL REVISION DATA COMPARED TO THE NATIONAL JOINT REGISTRY FOR PATELLA RESURFACING PROCEDURES FOLLOWING A PRIMARY TOTAL KNEE REPLACEMENT**

Irum Afzal1, John Dabis, Roy Twyman2

South West London Elective Orthopaedic Centre, London, United Kingdom.

As per the National Joint Registry (NJR) guidelines a Patella Resurfacing (PR) following a Primary Total Knee Replacement (TKR) must be recorded as a revision procedure to the registry. The accuracy of recording a PR as revision procedure following a TKR remains uncertain as no original implants are removed or replaced.

Over an 11-year period, 23 surgeons performed 12,635 primary TKRs at one hospital. 37 of these primary TKRs were reported to the NJR as revised. 14 of the 137 underwent a PR following a TKR and were accurately reported to the NJR. The remaining 123 were revised for other clinical reasons. Further analysis of hospital revision data using a hospital electronic system identified all the revision procedures performed by the same cohort of surgeons.

Local patient electronic medical records and NJR records were linked using hospital number in order to identify the accuracy in reporting revision data. 88 PR operations following a primary TKR were recorded on the hospital electronic system. 74 of these PR procedures were identified as not being reported to the NJR as revisions. PR following a TKR was underreported to the NJR. As a result the percentage of reported revisions following a primary TKR at this hospital should increase from 1.08% to 1.66% for an 11-year follow-up period. This result was found to be statistically significant, p < 0.0001.

In order to improve both knee arthroplasty surgery and NJR data quality, it is crucial that accurate data is recorded to the NJR.

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**0079 – SUCCESSFUL CLINICAL OUTCOME CAN BE ACHIEVED FOLLOWING REVISION OF MEDIAL UNICOMPARTMENTAL KNEE ARTHROPLASTY**

Abtin Alvandi1,2, Chin Tat Lim1, Robert Middleton1, Hannah Wilson1, Nicholas Bottomley4, William Jackson1, Andrew Price1

1University of Oxford, Oxford, United Kingdom. 2Nuffield Orthopaedic Centre, Oxford, United Kingdom.

**Aim:** The purpose of this study was to determine functional outcome after revision of failed medial unicompartmental knee arthroplasty (UKA) and similar for England and Wales.

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technical aspects of reconstructive surgery.

Methods: Revisions performed for failed medial UKA by two surgeons between 2006 and 2015 were identified. Demographics, indication for revision, prosthesis used (augments, stems, polyethylene bearing thickness, level of constraint), complications and functional outcome (assessed using the Oxford Knee Score [OKS] and Activity and Participation Questionnaire [APQ]) at minimum 2-year follow-up were recorded. Revision using stems, augment or hinged prostheses was classified as 'complex'.

Results: There were 44 UKA revisions with a mean age at primary surgery of 63.9 years (range: 32.0-84.2). Mean time from primary UKA to revision surgery was 6.3 years (range 1.3-15.1). A lateral UKA was added in 20%. Cruci- ate retaining TKA used in 36%, posterior stabilised TKA in 36%, and hinged prosthesis in 8%. Complex revision TKA was required in 20%. The complica- tion rate was 11%. No patients receiving an additional lateral UKA suffered post-operative complications. At follow-up, mean OKS was 31.6 (range: 9–38) and mean APQ score was 11.9 (range: 0–32).

Conclusions: This study suggests that acceptable clinical outcomes can be achieved after revision of failed UKA. In 80% of cases a standard primary TKA or lateral UKA was performed without the need for stems, augment or hinged prostheses. The overall complication rate was acceptable at 11% and the revision rate was low. Functional results demonstrates that an accept- able clinical outcome can be achieved.

007 – REVISION OF UNICOMPARTMENTAL TO TOTAL KNEE ARTHROPLASTY: DOES THE UNICOMPARTMENTAL IMPLANT (ALL-POLYETHYLENE VERSUS METAL BACKED) IMPACT THE TOTAL KNEE ARTHROPLASTY?

Chloe Scott, Matilda Powell-Bowens, Deborah MacDonald, Philip Simpson, Frazer Wade
Royal Infirmary of Edinburgh, Edinburgh, United Kingdom.

The aim of this study was to investigate differences in implant requirement, outcome and re-revision when TKA was performed following UKAs with all-polyethylene (AP) compared to metal-backed (MB) tibial implants.

Retrospective study of 60 UKAs converted to 60 TKAs at mean 7.3 years (0.1 to 17) after implantation in 55 patients (mean age 64 (49-83), 44% male; 44 MB and 16 AP). TKA implant requirement was investigated in addition to mean years to failure, Knee Score and TKA survival at mean 5.4 years (0.3 to 17).

Progression of osteoarthritis was the commonest mode of failure in MB UKAs (p=0.03) and unexplained pain in AP (p=0.011) where revision was earlier (4.8±3.2 Vs 8.2±4.5; p=0.012). In 56/60 (93%) cases, unconstrained TKA implants were used. The use of standard cruciate-retaining TKAs without augment/stems was more likely following failure (10/14; 71%) compared to AP (12/38, 32%; p=0.013). MB UKA implants were associated with greater relative bony resection (p=0.005), more tibial stem use (p=0.04), and more use of cruciate substituting polyethylene (p=0.05). Seven were re- revised giving 7-year TKA survival: MB UKA 70% (47.0 to 93.6 95%CI); and AP UKA 87.5 (64.6 to 100 95%CI) (p=0.191).Metal backed UKA implants increase the chances of a complex revision requiring tibial stems and cruciate substitution, but reduce the chances of early revision compared to all-polyethylene UKA which often fail early with pain. There is a trend towards worse TKA survival following metal-backed UKAs predominantly due to tibial sided failures.

0016 – METAPHYSSEAL SLEEVES IN REVISION TOTAL KNEE ARTHROPLASTY AT MIDTERM FOLLOW-UP

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Introduction: Stepped porous titanium metaphysseal sleeves may provide an option for not only reconstruction but also enhanced fixation in managing challenging bone defects in revision total knee arthroplasty (RTKA). We report our results of RTKA using metaphysseal sleeves with minimum 7 years follow-up. Materials: Between January 2007 and December 2009, 103 patients, 54 male and 49 female who underwent RTKA in our centre were followed up prospectively as part of this study with clinical and radiographic assessment. Revision data for patients who did not attend the follow-up study were accessed through Clinical Portal. Statistical analysis was done using SPSS Version 21.0. Results: The mean age of patients was 74.7 years (range 58-92). 64 patients had radiological assessment at minimum 7 years follow up. Mean follow-up was 95.7 (range, 88-115) months. From the origin-
tion. The majority of radiographic progression is mild. We continue to employ this surgical option in selected cases.

0104 – SUCCESSFUL CLINICAL RESULTS OF A FOCAL INDIVIDUALISED MINI-METAL IMPLANT FOR FOCAL CARTILAGE LESIONS IN THE KNEE.
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Objectives: Patients in the “gap age” 35-60 years old, with focal cartilage lesions are often considered too young for an arthroplasty and too old for biologic repair. We report prospective results of patients undergoing treatment for chondral defects using a patient specific mini-metal implant.

Methods: 61 (20 men, 41 women) with focal cartilage lesion ICRS grade 3 or 4 underwent partial resurfacing with a 2nd generation individualized metallic implant. Mean age was 49 (27-67) years with mean BMI of 28.86% had failed previous cartilage surgery. Prospective clinical data using VAS and KOOS outcome. Detailed specific MRI data was used to manufacture implants and guide instruments by a CAD/CAM process. Implants and guide instruments were patient specific and made to fit the unique knee anatomy of each individual knee. Implants were uncemented and made of chrome-cobalt, double coated with hydroxyapatite on top of Titanium.

Results: Mean preoperative aggregated KOOS was 36. This improved to 52 at 3 months, 60 at 6 months, 64 at 12 months and 66 at 24 months (n=19). The VAS score improved from 64 preoperatively to 29 at 12 and 24 months. There was one revision in this group after 16 months due to infection.

Conclusions: The study shows excellent early clinical results in the treatment of focal full thickness symptomatic cartilage lesions on the femoral condyles or trochlea with a second-generation patient specific metal implant and cutting guides. Adherence to strict indications has allowed for high patient reported scores and low early revision rate.

0007 – DOES COMPLEX REGIONAL PAIN SYNDROME REALLY OCCUR FOLLOWING TOTAL KNEE ARTHROPLASTY? – A PROSPECTIVE STUDY OF 100 PATIENTS USING CURRENT DIAGNOSTIC CRITERIA
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Introduction: Complex Regional Pain Syndrome (CRPS) has been reported to occur in up to 21% of patients following total knee arthroplasty (TKA). It is suggested that this is a common cause for continuing post-operative pain. The diagnostic criteria behind these reports however, are outdated. This study aimed to identify cases of CRPS using the updated internationally accepted criteria, whilst investigating areas where misdiagnosis may be possible.

Materials and Methods: We prospectively assessed data from a consecutive series of 100 primary TKA patients 6 weeks following TKA. Symptoms and signs of CRPS were assessed in those patients with excessive pain (visual analogue scale score > 4/10) using the Budapest Diagnostic Criteria and in line with this, an alternative diagnosis was sought that may explain the pain and exclude a diagnosis of CRPS. In those patients without an explanation for an alternative source of pain, an assessment of neuropathic pain was conducted using the painDETECT questionnaire.

Results: No cases of CRPS were identified according to the updated Budapest criteria. According to the previous Orlando Criteria, 8 patients may have been diagnosed with CRPS. 6 of these patients with unexplained excessive pain levels had evidence of neuropathic pain. Reassessment of those patients with excessive pain 3 months following TKA showed resolution in all but 2 patients without the need to restrict physiotherapy or institute additional opiate analgesia.

Conclusions: Using updated diagnostic criteria, CRPS should be considered a rare diagnosis following TKA. Assessment of more common causes such as neuropathic pain should be made.

0039 – CONSENT PLUS – IMPROVING THE CONSENT PROCESS IN ELECTIVE LOWER LIMB ARTHROPLASTY
Amit Chandratreya, Paul Lee
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Consent PLUS is an easy to use web based programme which introduces a documented checkpoint to the consent process in hip and knee replacement surgery. It enables reproducible high-quality bite-sized information delivery to patients and their families in an optimal environment. It utilises the flip classroom principle to facilitate dialogue between doctors and patients. More importantly it generates physical documentation to show patients’ knowledge and understanding of the material risks; to produce a truly informed consent.

1106 users completed the Consent PLUS process over 28 hospitals across the UK. 98.1% of users were satisfied with Consent PLUS. It significantly increased users’ self-rated knowledge by 29%, independent of age group, prior knowledge or check-point scores.

We were able to validate our data set with user self-rated scores before and after they used Consent PLUS. It demonstrated Consent PLUS can increase patients’ self-perceived knowledge by 30%, independent of their age group. Over the past 12 months, 1106 users completed the Consent PLUS online system and reached the certification stage. 60% of users accessed the system via desktop computers, 23% via tablet and 17% via mobile phone. 55 consultant surgeons and 28 hospitals have been registered into the system. In conclusion, based on 1106 users’ data, Consent PLUS offers a convenient delivery and improve patients’ understanding of the risks of surgery and its implications subjectively and objectively. Consent PLUS is a tool designed to enhance and facilitate the consent process, not to replace the current consent forms.
0071 – CHEMICAL THROMBOPROPHYLAXIS IN PRIMARY JOINT REPLACEMENT – IS IT WORTH THE BLEEDING BOTHER? RISK STRATIFICATION IN JOINT REPLACEMENT IS AS EFFECTIVE, AND SAFER, THAN DRUGS FOR ALL. RESULTS IN 13,472 PATIENTS
Peter Cug, Sukhdeep Gill, Randeep Karwal, Andrea Pearce, Nigel Rossiter Basingstoke and North Hampshire Hospital, Basingstoke, United Kingdom.

Background: Prospective analysis of over 13,000 primary hip and knee replacements in a single DGH from 1999-2016.

Methods: Patients were stratified prior to admission as high or low risk. Prior to 2012 low risk patients only had mechanical prophylaxis (Foot pumps). After 2012, patients had a selection of VTE prophylaxis including NOACs, aspirin, LMWH, warfarin and mechanical only.

Results: Foot pumps alone had a 0.67% DVT risk and a 0.44% PE risk, similar to low risk patients on aspirin prophylaxis (DVT 0.38%, PE 0.38%) after a primary hip replacement. Foot pumps alone had a 0.81% DVT risk and a 0.57% PE risk, similar to low risk patients on aspirin prophylaxis (DVT 0.42%, PE 0.57%) after a primary knee replacement.

Conclusion: Risk stratification may be enough to identify patients who are at low enough risk post arthroplasty to not require any form of chemical prophylaxis.

0037 – A SIMPLE VISUAL AID INCREASES KNEE FLEXION AFTER A PRIMARY KNEE REPLACEMENT
Leonid Randle, Oriel Ratson, Yoav Mattan, Meir Liebergall, Gurion Rivkin Hadassah-Hebrew University Medical Center, Jerusalem, Israel.

Knee flexion is a very important functional outcome after primary knee replacement. During the first weeks after the surgery, patients are encouraged to increase the range of motion of the knee. However, pain and anxiety may preclude the patient from exercising. “Doctor, it is too painful, something has to be wrong in there” is a common statement. We studied if a simple visual aid can improve the knee flexion.

After power analysis, 60 patients were prospectively recruited, 29 in control and 31 in intervention group. Both groups received identical postoperative treatment, both in hospital and after the discharge. In intervention group, patients received a laminated A4 color photo of their postoperative flexion, with their initials written on their thigh. Patients were encouraged to keep the photo at the bedside and to look at it every time they are in pain or anxious about their surgery. Knee flexion was measured preoperatively and 6 weeks after the procedure, using a smartphone application.

The two groups were similar in age, gender and BMI. There was no difference in preoperative knee flexion. 6 weeks after the surgery, the average flexion in the intervention group was 105 degrees and in the control group – 95 degrees (p=0.03).

A photo of postoperative knee flexion, taken while under anaesthesia, shows the patient’s optimal – and possible – knee flexion. In this study it improved the knee flexion, probably by reducing the anxiety and allowing more exercising. More similar interventions are needed to improve different aspects of outcome.

0013 – PSYCHOMETRIC ASSESSMENT OF ARTHROSCOPIC SURGEONS
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Arthrosopic and minimally invasive surgery demands spatial manipulation and visualization skills commonly associated with dyslexia. The UK Clinical Attitude Test (UKCAT) is a higher academic qualification used for UK Medical School entry since 2006. We assessed the psychometric aptitude scores of two groups of postgraduate experts with widely differing skill sets. An online questionnaire of questions and psychometric tests from the UKCAT were used to compare the performance in a group of Consultant arthroscopic orthopaedic surgeons and a group of established general practitioners.

The Orthopaedic Surgeons had an incidence of dyslexic traits in 33%, a history of 25% special needs training in school, 42% were slow to read as children, 50% reported adult spelling problems, 33% found oral examinations better, 25% had dyslexic children. This compared to 0% of these problems in the GP group. Dyslexic individuals scored much lower on the UKCAT test showing that the GP’s significantly outscored the arthroscopic surgeons in the UKCAT test results in all categories except confidence of decision making when correct. Some of these parameters reached statistical significance at the p<0.05 level. The scores suggest that 33% of the arthroscopic surgeons may not have achieved the level necessary for entry to medical school.

The current reliance on the UKCAT as a higher level of academic and aptitude testing for medical school entry may exclude those with the psychometric skills which are ideally suited for minimally invasive surgeons.

0005 – CANDIDACY AND SURVIVORSHIP FOR MEDIAL-MENISCAL BEARING UNICOMPARTMENTAL KNEE REPLACEMENT BY AGE
James Kennedy1, Stephen Mellon1, Adolph Lombardi2, Keith Berend3, Thomas Hamilton1, David Murray1
1University of Oxford, Oxford, United Kingdom. 2Joint Implant Surgeons, Inc, New Albany, USA.

Introduction: About 50% of knees are candidates for unicompartamental knee replacement (UKR), but it is unclear how candidacy is affected by age.

Methods: Preoperative radiographs from 457 consecutive knees replaced at an independent centre were reviewed. A radiographic decision aid, validated for medial meniscal-bearing UKR, determined candidacy for age groups <50, 50 to <60, 60 to <70, 70 to <80, and 80+.

Results: Overall 49% of knees were appropriate for UKR. Candidacy decreased with age (p = 0.004), being 74% (CI 31), 53% (CI 18), 46% (CI 15), 41% (CI 19), and 43% (CI 31) respectively. In all groups later lateral osteoarthritis was the leading reason UKR was not appropriate. To improve power, survivorship was examined with cutoffs <60, 60 to <75, and 75+. 92% of knees identified as appropriate for UKR were treated with UKR and in these 5 year implant survival was not related to age (p=0.54), and was 98.6% (CI 10); 98.8% (CI 8) and 100% respectively.

Conclusion: Candidacy decreased with age, being 74% in those <50 and 43% in those 80+. The proportion of patients appropriate for UKR that are treated by UKR, based on National Joint Registry data, also decreases with age being one-third in those <60 and only one-tenth in those over 80. UKR has lower morbidity and mortality compared to TKR, and in this series no revisions in those 75+, thus it is arguably the oldest patients that have the most to gain with UKR yet are the most underutilised.

0028 – 1-YEAR OUTCOMES OF MEDIAL PATELLOFEMORAL LIGAMENT RECONSTRUCTION WITH TIBIAL TUBEROSITY DISTALISATION FOR PATIENTS WITH RECURRENT PATELLOFEMORAL INSTABILITY AND PATELLA ALTA
Ashley Brown, Gaynor Kanes, Andrew Barnett
The Robert Jones and Agnes Hunt Orthopaedic Hospital, Oswestry, United Kingdom.

Introduction: Recurrent patellofemoral instability represents a challenging condition to treat. Two of the most common risk factors for this condition are trochlear dysplasia and patellar alta. In carefully selected patients, surgery can restore stability and improve clinical function. We report on the outcomes of medial patellofemoral ligament (MPFL) reconstruction in combination with tibial tuberosity distalisation (TTD) for patients with patellofemoral instability and patella alta.

Methods: MPFL reconstruction with TTD was undertaken for patients with recurrent patellofemoral instability and radiographic evidence of patella alta between August 2013 and December 2016. Patients were evaluated pre- and post-operatively with standard scoring systems. Patients with severe trochlear dysplasia were excluded.

Results: Twenty-four consecutive MPFL reconstruction and TTD procedures were undertaken in 20 patients (6 male, 14 female), with a mean age of 22.8 years (16 – 31), and 1-year follow-up. Four patients underwent bilateral procedures (sequential). Three (12%) had no trochlear dysplasia, 11 (46%) mild dysplasia, and 10 (42%) moderate. Mean operative time was 82 minutes. Mean Kujala and IKDC scores improved from 62.1 pre-operatively to 82.7 at 1 year post-operatively (p<0.05), and 48.7 to 73.4 (p<0.05), respectively. No recurrence of instability occurred during the 1 year follow up period. One (4%) patient developed post-operative stiffness, requiring a manipulation under anaesthetic at 6 months post-operatively.

Conclusions: In carefully selected patients with patellofemoral instability and patella alta, MPFL reconstruction and TTD is a safe and effective treatment.

1Authors of the PODIUM presentations (Free Paper sessions) were invited to submit an E-Poster of their presentation. The E-Posters are displayed on screens within the exhibition area (Walkers Hall & Reception Lounge)1. You can search and view individual E-Posters using the touch screen in the exhibition area, Walkers Hall.
Aim: The emphasis within the NHS is to safely reduce the time patients spend in hospital and perform more operations as daycases or short stay. Our aim was to introduce a new pathway with an innovative rehabilitation protocol, delaying knee flexion, to reduce the length of stay (LOS) for all unicompartmental knee replacements (UKRs) This gave the opportunity for as many patients as possible to be managed as daycases with an option to transfer to an enhanced recovery pathway if they were not discharged by day 1.

Patients and Methods: In September 2016 an innovative daycase pathway was introduced. Eleven orthopaedic consultants and their teams performed 436 primary unilateral UKRs in the 12 months to August 2017.

Results: 130 patients (30%) went home on the day of surgery, 180 (41%) on day 1 and 126 (29%) stayed in 2 or more days (range 2-28 days). The average LOS reduced from 2.6 to 1.5 days (median of 1 day). The pathway was safe and acceptable to patients. Average flexion was 109° (60-135) at 6 weeks with no MUs. A saving of 480 bed days and £144,000 was made in 12 months.

Conclusion: Many components of traditional clinical care were altered allowing adoption of this pathway. We feel the important factors were the combination of an innovative rehabilitation protocol, delayed knee flexion and physiotherapists working late evening shifts. The changes we achieved were the result of marginal improvements in all areas of the pathway, rather than any one major change.

Introduction: Tranexamic acid is thought to play an important role in reducing blood loss in patients undergoing total knee replacement (TKR). Its use is variable and there is debate as to what is the most optimal route and dose for its use in TKR.

Aim: To compare differing practices of four surgeons to determine the most effective dose and mode of use of tranexamic acid administration to reduce blood loss during TKR.

Methods: Prospective cohort study. 4 groups of patients who underwent primary TKR for osteoarthritis with 4 surgeons. Group 1 (n=22) received 1gm intravenous tranexamic acid at induction. Group 2 (n=22) received 1gm intravenous at induction and 1gm intravenous at closure. Group 3 (n=22) received 1gm intravenous at induction and 1gm intra-articular topically during closure and a drain was used, clamped for 30 minutes. Group 4 (n=21) same as group 3 but without a drain. Drop in haemoglobin level post-operatively and the need for blood transfusion was assessed.

Results: None of the patients needed blood transfusion post operatively. Groups 1 & 2 showed significant drop of haemoglobin (mean Hb drop 23.78, 22.14 respectively) in relation to the other two groups, p value 0.013. Group 3 (mean Hb drop 13.32) showed significant less drop of haemoglobin than group 4 (mean Hb drop 17.51) with p value 0.047.

Conclusion: Combined intraoperative and intra-articular tranexamic acid with a drain clamped for 30 minutes was the most effective regimen in reducing perioperative blood loss in our cohort of patients undergoing TKR.
0002 – A SYSTEMATIC REVIEW OF LONG TERM PATIENT REPORTED OUTCOMES FOR THE TREATMENT OF ANTERIOR CRUCIATE LIGAMENT INJURIES IN THE SKELETALLY IMMATURE.

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Purpose: To systematically review the available literature regarding outcomes for the treatment of ACL injuries in the skeletally immature at skeletal maturity or >5 years after surgery.

Methodology: A systematic search was performed of seven online databases for literature reporting patient reported outcomes for the treatment of ACL injuries in the skeletally immature. A systematic review of this literature was performed examining the outcomes and their association with skeletal immaturity and treatment techniques.

Results: 18 articles reported the outcomes of 375 subjects. The mean age at surgery ranged from 10.3 to 15 years old. Average follow up range from 36 to 163 months. 10 studies followed up subjects until skeletal maturity. The ranges for outcome scores for surgical treatments were found to be: Lysholm 84.6-100, Tegner 6-8.7, IKDC 84-97. No differences in outcome scores were seen between extra- or trans-physeal surgery, however, results for non-surgical treatments were worse. Higher incidences of limb length discrepancy (n=2) and malalignment (n=1) were seen with transphyseal surgery. A higher incidence of persistent instability was seen with transphyseal surgery.

Conclusions: The results of this systematic review have found the long-term patient reported outcomes of ACL reconstruction in the skeletally immature to be good. They compare favourably to the natural history of the condition. However, the results of modern non-surgical treatments and ligament repair techniques needs to be further evaluated. Both transphyseal and extraphyseal reconstructive techniques produced good outcomes, but a trend of more persistent instability was seen in the transphyseal group.

Free Paper Session 6: Osteotomy and others

0092 – STATIC STRENGTH OF HIGH TIBIAL OSTEOTOMY WITH AND WITHOUT GRAFT MATERIALS: A BIOMECHANICAL STUDY

John Dalziel, James Belsey, Raghbir Khakh, Sam Yasen, Mike Riesebury, Adrian Wilson
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Objectives: The purpose of this study was to investigate the use of different graft materials during medial opening wedge high tibial osteotomy (MOWHTO), and their effects on construct strength and stability.

Methods: A 10 mm bilplanar MOWHTO was performed on 15 artificial tibiae. In the resultant osteotomy gap, an allograft wedge (n=5), or pairs of synthetic β-tricalciumphosphate wedges (n=5) were inserted prior to plate fixation. An additional control group (n=5) with no inserted wedge was also included in the study. All osteotomies were secured using an internal fixator plate with a monoxial locking system. Static compression was applied, following a ramp protocol (0.1 mm/s), perpendicular to the tibial plateau of each specimen, until failure of the osteotomy construct. Failure was the point at which there was a fracture of the lateral cortex. Maximum force, horizontal and vertical displacement, valgus malrotation of the tibial head, and specimen stiffness were calculated.

Results: The synthetic group failed at 6.25 kN, the allograft group at 6.04 kN, and the control group at 4.46 kN. The most valgus malrotation of the tibial head was observed in the allograft group (2.6°). The allograft group showed high stiffness on the medial side of the tibial head as well as the highest stiffness on the lateral side.

Conclusions: The use of graft materials in MOWHTO results in superior biomechanical properties as compared to the use of no graft. Synthetic grafts provide the highest mechanical strength to a MOWHTO. Allograft wedges also provide mechanical strength to MOWHTO.

0096 – THE USE OF BONE WEDGE ALLOGRAFT IN HIGH TibIAL OSTEOTOMY: A PROSPECTIVE STUDY OF PAIN AND TIME TO UNION

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Introduction: Medial opening wedge high tibial osteotomy (HTO) is commonly used to treat patients with medial osteoarthritis secondary to varus malalignment. It has traditionally been associated with high pain scores, complications with union and hardware prominence. Modern techniques have improved clinical outcomes, however, pain and swelling remains an issue for some patients.

Aims: To identify whether the use of a cancellous bone wedge allograft improves clinical outcomes and time to union.

Methods: A prospective cohort study with three interventions was designed. Group 1 received an HTO using a Tomofix plate (Depuy-Synthes) with no bone graft. Group 2 received a Tomofix plate with bone graft. Group 3 received a low profile Activation plate (Newclip Technics) with bone graft. Power was set at 80% with p<0.05, requiring 28 patients in each arm. Patient outcome scores including KOOS, OKS, EQ-5D and APQ scores were collected pre-operatively and 12 weeks. Opioid use and pain scores were measured in the first 48 hours post-operatively, with repeat scores at weeks 3, 6, 9 and 12. Signs of union were assessed radiologically at 3 months.

Results: There was a statistically significant difference in the outcomes. There were higher incidences of swelling in groups using bone graft in the immediate post-operative period up to 6 weeks, compared to those without (p<0.05). These scores became equivocal at 12 weeks. There were no associated complications using allografts.

Conclusion: Bone wedge allograft can be safely used in high tibial osteotomy surgery with the benefits of reduction of pain and swelling in the immediate post-operative period.

0026 – EFFECT OF BMI ON THE LONG-TERM OUTCOMES OF MEDIAL MENISCAL-BEARING UNICOMPARTMENTAL KNEE REPLACEMENT

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Background: Obesity is considered a contraindication for unicompartmental knee replacement (UKR), and this has seen rationing of arthroplasty in the United Kingdom based on body mass index (BMI). The aim of this study was to assess the effect of BMI on long term functional and survival outcomes of medial UKR.

Methods: A prospectively followed cohort of 1000 consecutive medial meniscal-bearing UKR with mean ten year follow up was divided into groups: BMI <25 kg/m², 25 to <30, 30 to <35 and 35+. At ten years, mean Oxford Knee Score (OKS) was compared with a Kruskall-Wallis test, and Kaplan-Meier survival estimates compared with a log rank test.

Results: Heavier patient groupings were younger and had worse preoperative OKS. All groups had a significant improvement in OKS with surgery. At ten years the OKS from lightest to heaviest group were 41 (SD 8), 41 (8), 37 (8), and 40 (8) (p<0.001). The 35+ group experienced the greatest overall increase in OKS. Ten year survival from lightest to heaviest group was 91.5% (95% CI 86-96), 94.5% (92-97), 93.8% (90-98) and 92.6% (87-99). These differences were not significant (p=0.54). Disease progression was not associated with BMI (p=0.52).

Conclusions: There were significant differences in OKS, though there did not appear to be a trend with increasing BMI, and the heaviest group had the biggest improvement. There was no difference in implant survival. These results suggest BMI does not impact outcome, and should not be considered a contra-indication to medial meniscal-bearing UKR.

0009 – ALLERGY IN TOTAL KNEE ARTHROPLASTY. A REVIEW OF THE FACTS

Simon Middleton, Andrew Toms
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Introduction: The possibility of allergy in total knee arthroplasty (TKA) is an issue that has become increasingly prominent over the last few years. 10 to 48% of the population are reported to be sensitive to metal. We examined the literature and explored potential mechanisms of allergy to identify if any clear relationship between allergy and TKA exists.

Methods: Literature search using Medline and PubMed for articles with specific reference to allergy or hypersensitivity in TKA.

Results: More than 100 papers were identified, reduced to 56 relevant papers on abstract review and these formed the basis of our discussion. This allergy is an IgE mediated reaction and does not occur in response to metal implants. However, type IV hypersensitivity is not antibody mediated but a T-cell lymphocyte mediated reaction taking a few days to occur in patients who have previously been sensitised to the allergen. Metal particles on their own do not stimulate the immune system but must cross react across the skin.

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with proteins. The cellular mechanism for this exists. Criteria to diagnose an implant failure as a result of allergy are extensive, ultimately relying on resolution of symptoms after revision as well as appropriate local tissue reaction.

**Conclusion:** On the basis of current evidence pre-operative screening for metal hypersensitivity is not needed as evidence is lacking to support that hypersensitivity as an allergic process to TKA exists or is a problem. There is no current proven benefit to novel hypoallergenic implants and we continue to use standard implants in all patients.

**0033 – STUD DESIGN OF SPORTS FOOTWEAR AFFECTS GROUND REACTION FORCES IN CUTTING AND CROSS-CUTTING EXERCISE**

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1Morriston Hospital, Swansea, United Kingdom. 2University of Bath Sports Medicine Department, Bath, United Kingdom. 3University of Bath Applied Biomechanics Suite, Bath, United Kingdom. 4Southmead Hospital, Bristol, United Kingdom.

Non-contact Anterior Cruciate Ligament injury can occur during cutting and cross-cutting movements in sport. The nature of the playing surface (grass vs 4G) affects ground reaction forces through the lower limb, but the impact of foot stud design and arrangement is unknown. One theory is that boots with a ‘blade’ stud design resist sideways slipping of the planted foot to a greater degree than boots with a rounded stud. Increased lateral forces might predispose to greater risk of injury using such designs. This biomechanical study directly measures ground reaction forces using two different designs of rugby boot. The study was conducted on a 4G artificial grass surface rather than in a biomechanics laboratory in order to replicate genuine sporting conditions more accurately.

Ground reaction forces on the foot were measured using Tekscan in-shoe pressure plates in 20 rugby players. Each player was asked to complete an agility course to measure acceleration, cutting and cross-cutting in the two different designs of rugby boot. The two boots used were the Canterbury Phoenix Club 8 Stud boot and the Canterbury Speed Club Blade boot. Results are produced as colour-coded force maps and pressure graphs for both feet as the athletes performed the test course. Ground reaction forces during cutting and cross-cutting were higher when wearing the blade design compared to the traditional stud design. Increased lateral forces could theoretically increase risk of ACL injury in athletes. Further clinical studies will be required to assess this correlation in the sporting population.

**0046 – 2D/3D EOS IMAGING VERSUS STANDING LONG LEG X-RAY IN LOWER LIMB CLINICAL ASSESSMENT – INTER-OBSERVER AND INTRA-OBSERVER RELIABILITY**

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**Background:** X-ray imaging is widely used as gold standard for assessing lower limb conditions, such as arthritis, and for pre-operative planning. New low-dose EOS imaging system enables weight-bearing 3D imaging so it accounts for limb deformities and aids accurate pre-operative planning. The objective is to measure lower limb angles from EOS images to determine its accuracy and repeatability compared with standing x-rays. **Method:** Over 1 year patients with end-stage osteoarthritis were recruited from preoperative clinics. 40 long leg 2D EOS, 3D EOS images and x-ray radiographs were measured independently by 4 observers (2D EOS and x-ray: fAMA, mLDFA, aLDFA, MPTA, LDTA; 3D EOS: femur and tibia length, varus/valgus, fAMA, mLDFA, and mPTA). All observers repeated the measurement on 2D EOS and x-ray imaging. **Results:** T-test and Bland-Altman (BA) analysis comparing 2D EOS with x-ray imaging showed no statistical difference in measurements, apart from MPTA (85.20 vs. 86.14, p=0.04). T-test comparing 3D EOS with 2D EOS imaging showed no significant difference in all angles (p>0.05). T-test comparing 3D EOS with x-ray radiographs measurements showed no significant difference in fAMA and mLDFA, apart from measuring MPTA (84.50±3.07 vs. 86.27±4.02, p=0.03). Inter-observer ICC for 2D EOS and x-ray was 0.99 and 0.99 respectively. The intra-observer ICC for 2D EOS and x-ray was 1.00 and 1.00 respectively. Both modalities have excellent repeatability and reproducibility.

**Conclusion:** This study has shown EOS imaging system as a valid alternative method of imaging lower limbs for alignment, measurements and pre-operative arthroplasty planning.
British Association for Surgery of the Knee
ANNUAL GENERAL MEETING
Tuesday 20th March 2018 - Leicester

Agenda

1. Apologies

2. Minutes of BASK AGM, Southport 2017  
   Tony Hui

3. President’s Report  
   Colin Esler

4. Research Committee  
   Andrew Toms

5. Education Report  
   Andrew Porteous

6. Webmaster’s Report  
   Ram Venkatesh

7. Treasurer’s Report  
   Leela Biant

8. ‘The Knee’ Report  
   Caroline Hing

9. Coding, tariff and GAPI  
   David Johnson

10. Secretary’s Report  
    Tony Hui
    a. Election to BASK Executive
    b. Election of new members

11. Any other business
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<tr>
<th>Name</th>
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<th>Hospital</th>
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<th>BOA member</th>
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<tr>
<td>Sujit Kumar Agarwal</td>
<td>ST7</td>
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<td>Mr. S. P. Trikha</td>
<td>Mr. H. Chissell</td>
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<td>Mr. A. Davies</td>
<td>Mr. M. Dodd</td>
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<td>Syed Z Navaz</td>
<td>Locum Consultant</td>
<td>North Cumbria University Hospital</td>
<td>Mr. W. Hage</td>
<td>Mr. J. E. Sudhakar</td>
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<td>Chethan Jayadev</td>
<td>Consultant</td>
<td>Kims Hospital Maidstone</td>
<td>Mr. P. Kiefer</td>
<td>Prof. A. Price</td>
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<tr>
<td>Gary Mundy</td>
<td>Consultant</td>
<td>Royal National Orthopaedic Hospital</td>
<td>Mr. P. Hill</td>
<td>Mr. H. Chissell</td>
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<td>Sarvesh Singh</td>
<td>Consultant</td>
<td>Frimley Park Hospital</td>
<td>Mr. J. Campion</td>
<td>Mr. E. Crawford</td>
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<tr>
<td>Joanna Thomas</td>
<td>Consultant</td>
<td>Northampton General Hospital</td>
<td>Mr. P. Schanz</td>
<td>Mr. S. Middleton</td>
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<td>Southampton Children's Hospital</td>
<td>Mr. M. Frame</td>
<td>Mr. P. Chapman-Sheath</td>
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**Full Membership (7)**

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**Associate Membership (4)**
ACPA CONFERENCE PARALLEL TO BASK ANNUAL SPRING MEETING

LCFC, King Power Stadium, Leicester

20th – 21st March 2018

The APCA Meeting will be held in Premier Lounge 2, located on the 2nd floor of the LCFC

Tuesday 20th March

08.00 REGISTRATION & COFFEE – Reception Lounge & Walkers Hall within the Exhibition Area

09.00 WELCOME & INTRODUCTION – BASK President, Colin Esler (Leicester) – Keith Weller Lounge

09.30 WELCOME & INTRODUCTION TO MAIN ACPA PROGRAMME – Clare-Louise Sandell, ACPA President, Premier Lounge 2, Second Floor

09.40 GIRFT – THE ROLE OF THE ARTHROPLASTY PRACTITIONER IN VALIDATING DATA – Mr Tim Wilton, Consultant Orthopaedic Surgeon, Royal Derby Hospital, Derby, UK

10.15 COFFEE – (Walkers Hall & Reception Lounge – Exhibition/Poster & E-Poster Viewing)

10.45 HEALTH LITERACY & NUMERACY – AN INTRODUCTORY AND INSTRUCTIONAL SESSION ON KEY CONCEPTS FOR ENHANCING PATIENT CENTRED COMMUNICATION AND CONSENT – Ms Maxine Dennis, Operations Director, Community Health & Learning Foundation, Loughborough, UK

12.45 MAIN BASK PROGRAMME – GUEST SPEAKER: Piers Mitchell (Peterborough) Presentation ‘Musculoskeletal Disease and Trauma in King Richard III’

13.15 LUNCH – (Walkers Hall & Reception Lounge – Exhibition/Poster & E-Poster Viewing)

14.00 MAIN BASK PROGRAMME – INSTRUCTIONAL SESSION 1 – Can we improve outcome of knee replacement?

15.20 TEA – (Walkers Hall & Reception Lounge – Exhibition/Poster & E-Poster Viewing)

15.50 MAIN BASK PROGRAMME – INSTRUCTIONAL SESSION 2- Periprosthetic Joint Infection

17.15 – 18.15 ACPA AGM & DRINKS RECEPTION


There will be an alternative ACPA dinner – venue to be confirmed.
The APCA Meeting will be held in Premier Lounge 2, located on the 2nd floor of the LCFC

Wednesday 21st March

08.00   REGISTRATION & COFFEE – Reception Lounge & Walkers Hall within the Exhibition Area (Poster & E-Poster Viewing)

09.00   CLINICAL PEARLS SESSION 1 – FOOT AND ANKLE – Mr Stephen Milner, Consultant Foot and Ankle Surgeon, Royal Derby Hospital, Derby, UK

09.30   CLINICAL PEARLS SESSION 2 – SHOULDER AND ELBOW REPLACEMENT, INCLUDING OUTCOME MEASUREMENT AND DATABASE CREATION – Ms Marie Morgan, Clinical Specialist Physiotherapist and Upper Limb Arthroplasty Practitioner, Royal Derby Hospital, Derby, UK

10.05   COFFEE – (Walkers Hall & Reception Lounge – Exhibition/Poster & E-Poster Viewing)

10.40   CLINICAL PEARLS SESSION 3 – RADIOLOGY: BACK TO BASICS – Dr Michael Khoo, Consultant Radiologist, Royal National Orthopaedic Hospital, Stanmore, UK

12.00   MAIN BASK PROGRAMME – Lorden Trickey Lecture- Principles of Revision Knee Arthroplasty, Dr Wolfgang Klauser, Helios Baltic Sea Clinic, Germany

12.40   LUNCH – (Walkers Hall & Reception Lounge – Exhibition/Poster & E-Poster Viewing)

13.20   ACPA OPEN FORUM AND NETWORKING SESSION – Chaired by Sharon Ferndinadus, Orthopaedic Nurse Specialist, Chapel Allerton Hospital, UK

15.00   ACPA MEETING ENDS AND CLOSING REMARKS

15.10   COFFEE – (Walkers Hall & Reception Lounge – Exhibition /Poster & E-Poster Viewing)

15.30   MAIN BASK PROGRAMME

16.30   Closing Remarks– President, Colin Esler (Leicester)

16.45   Close of the ‘2018 BASK Annual Spring Meeting’
0005 – A VALIDATION STUDY OF THE ARABIC VERSION OF THE OXFORD KNEE SCORE FOR USE IN END STAGE KNEE OSTEOARTHRITIS

Robert Petretta, Simon Middleton, David Adams, Noah Sethi, Ahmed Bin Nasser, Malcolm Grandall, Robert Jones, Brian Proctor, Mark Spangehl, Simon Young

Abstract

Objective: To validate the Arabic version of the Oxford Knee score (OxKs-Ar) in male and female knee osteoarthritis patients.

Methods: 80 males and 20 females aged 67±8 years with KOA participated in the study. All patients were assessed before knee surgery. Reliability of OxKs-Ar (ICC=0.96-0.98) and agreements revealed no significant bias. Test and re-test mean scores showed no significant difference and a highly significant Spearman’s rho (0.98) indicating internal consistency. There was no floor or ceiling effect pre-TKA, and post-TKA ceiling occurred in a minority of cases (77% in tibia, 69% in femur).

Conclusion: The Arabic version of the Oxford Knee Score (OxKs-Ar) is useful for assessing knee function in male and female patients with osteoarthritis. It is reliable and valid and can be used as an outcome measure for knee surgery.

0108 – CORONAL ALIGNMENT IN KINETIC TINAL TOTAL KNEE ARTHROPLASTY – THE 4 YEAR RESULTS OF THE OUTLIER

Andrew Davies, Matthew Dodd

Abstract

Objective: To assess the presence and extent of sleep disturbance following TKA surgery.

Methods: All patients were classified as having a high level of sleep disturbance (average pain ratings). A further larger scale study to further investigate pain-related factors such as use of analgesics and pain characteristics is required.

Conclusions: The majority of patients were classified as having poor quality of sleep before, and for up to 3 months following TKA surgery. There was a significant increase in sleep disturbance 2 weeks after TKA, and in most severely reported pain but not in average pain ratings. A further large scale study to further investigate pain-related factors such as use of analgesics and pain characteristics is required.

0103 – THE LATELLA 2 DEVICE: A NOVEL DEVICE FOR THE TREATMENT OF KNEE PAIN

Andrew Davies, Matthew Dodd

Abstract

Objective: To develop a novel device for the treatment of knee pain.

Methods: The LATELLA 2 device was designed to be attached to the lateral aspect of the femur distally, deep to the ilio-tibial band and bone structures, and hence creates a moment-arm to relatively lateralise forces across the knee joint. Patients were treated with 20 minutes of off-loading the medial compartment. The joint is not opened and the device could be removed in future. We were part of a multi-centre clinical trial of the device.

Conclusions: The LATELLA 2 device has been well tolerated and has shown promising results in a small number of patients. Further clinical trials are needed to confirm its efficacy and safety.

0102 – THE MODULAR LINK HINGE KNEE. MINIMUM 3 YEAR FOLLOW UP

Jonathan Johns, Keith Eyres, Andrew Toms

Abstract

Objective: To assess the presence and extent of sleep disturbance following TKA surgery.

Methods: All patients were classified as having a high level of sleep disturbance (average pain ratings). A further larger scale study to further investigate pain-related factors such as use of analgesics and pain characteristics is required.

Conclusions: The majority of patients were classified as having poor quality of sleep before, and for up to 3 months following TKA surgery. There was a significant increase in sleep disturbance 2 weeks after TKA, and in most severely reported pain but not in average pain ratings. A further large scale study to further investigate pain-related factors such as use of analgesics and pain characteristics is required.

0104 – IS SLEEP DISTURBANCE A PROBLEM FOR PATIENTS AFTER TOTAL KNEE REPLACEMENT?

Holly Lucy, Ashima AlexanderMacMillan, Patrick Hourigan

Abstract

Objective: To assess the presence and extent of sleep disturbance following TKA surgery.

Methods: All patients were classified as having a high level of sleep disturbance (average pain ratings). A further larger scale study to further investigate pain-related factors such as use of analgesics and pain characteristics is required.

Conclusions: The majority of patients were classified as having poor quality of sleep before, and for up to 3 months following TKA surgery. There was a significant increase in sleep disturbance 2 weeks after TKA, and in most severely reported pain but not in average pain ratings. A further large scale study to further investigate pain-related factors such as use of analgesics and pain characteristics is required.

0100 – THE FIXED BEARING STRAYER TRIATHLON PARTIAL KNEE REPLACEMENT: A MULTI-SURGEON, SINGLE CENTRE OUTCOME STUDY WITH MEAN FOLLOW UP OF 4.5 YEARS

Simon Middleton, Peter Schrani, Vinay Mandalia, Andrew Toms

Abstract

Objective: To evaluate the clinical and radiological outcomes of the Strayer Triathlon PKR.

Methods: 129 Strayer Triathlon PKR were implanted in 115 patients between January 2010 and December 2015. The mean follow up was 65.5 years. Mean follow up was 4.5 years. Patients were deceased with PKR implants still in situ. Of the remaining 127 implants (88%), 54 (43%) for disease processes for infection, 2 for aseptic loosening and 1 for mal-alignment.

Conclusions: The Strayer Triathlon PKR is a reliable and effective knee replacement for patients with isolated medial compartment osteo-arthritis. The device implanted five Latella devices into five patients between December 2015 and August 2016. Patients underwent general anaesthesia and implantation with image intensifier guidance. All went home the same day and all reported immediate relief of their medial knee pain. There were no complications. As part of the research protocol all patients have been exhaustively reviewed at numerous time points. The device has been well tolerated and has not resulted in any loss of knee flexion or anterior knee pain. Knee scores and function were excellent in all patients. Patient satisfaction is high. Pain relief has been sustained at two years for the three patients who have had that milestone. One patient has had recurrence of symptoms at 15 months post-surgery. The Latela 2 potentially offers a new treatment option to fill the ‘Treatment Gap’ that exists at present.

Poster Presentations 2018

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You can search and view individual E-Posters using the touch screen in the exhibition area, Walkers Hall.
in unicompartmental knee arthroplasty (UKA) persistent pain is a major concern, with several studies showing when compared to Total Knee Arthroplasty. Few studies have been published examining the role immediate post-operative pain and any effect on the long-term outcome. In this study, we investigate the relationship between early post-operative pain and long-term outcomes.

Data from the Glasgow Royal Infirmary Mako RCT dataset was collected. Consecutive patients undergoing UKA for 75% of cases. Pain scores during the first 3 days post-op, at 1 month, and 1 year were compared to the Knee Society Score. Knee Society Anterior and Knee Society Function scores (KSS-A and KSS-F).

The majority of patients experienced their peak pain 2 days post-op. Over the two years post-operatively, mean pain scores decreased. Receiving implant in the same knee for certain patients’ pain scores remained high. There was no significant relationship between day 2 pain scores and those at 1 month, or 1 year. There was no relationship between day 2 pain and those at 1 month and 1 year.

In this patient group, there does not appear to be a significant relationship between early pain and outcome at 3 months, 1 or 2 years. Further investigation is required to assess if interventions to reduce immediate post-operative pain may have any benefit in reducing persistent pain.

0065 – DOES DIABETES AFFECT OUTCOME OF KNEE ARTHRROPLASTY?

Eshan Sharma, David Matthews

Conclusion: We report a 10-year survivorship of 89.7%. At the time of last follow-up, 21% of patients had a revision for AKSS, OKS and FJS at 3 months, 1 or 2 years. In this patient group, there does not appear to be a significant relationship between early pain and outcome at 3 months, 1 or 2 years. Further investigation is required to assess if interventions to reduce immediate post-operative pain may have any benefit in reducing persistent pain.

0062 – HOW RELIABLE IS THE POLLARD TECHNIQUE FOR PRE-OPPERATIVE MENSICAL SIZING? A SNAPSHOT STUDY OF THE AUSTRALIAN MENISCAL TRANSPLANT STUDY GROUP

Ciara Stevenson

Methods: Patients demographics, pre-operative and postoperative functional scores including Hospital for Special Surgery (HSS) Knee Score, Oxford Knee Score (OKS) and American Knee Society Score (AKSS) were recorded and statistically analysed.

Results: 558 patients had a minimum 1 year follow-up of whom 215 had a minimum 10-year follow-up were included in the analy-

0066 – OXFORD UNICOMPARTMENTAL KNEE ARTHROPLASTY: 10- YEAR OUTCOMES FROM THE AUSTRALIAN RESEARCH STUDY

Satish Kannan Rajamanickam Gnanasi, Manjush Hanaprasakam, Anjumathan Ramakrishnan, Tiff Mitchell, Tim Moody

An improvement in physical activity [PA] is often expected by patients undergoing unicompartmental arthroplasty (UKA). Knee studies have used objective methods to investigate such changes. Any change in PA following UKA using an objective assessment tool.

Methods: A total of 33 patients waiting for TKA were recruited from our population. ActivityPA activity monitors were worn by patients for a period of 7 days both before and 6 months following TKA. The patients completed the Oxford Knee Score (OKS) and Knee Osteoarthritis Outcome Score (KOOS).

Results: Due to attrition, only 6 patients had mean ages of 59 years and 76 years, respectively. Six months post-TKA, the sedentary time showed a non-significant reduction by 5:30 minutes over each subsequent day. Corresponding median increase in number of steps taken per day of 3479 steps. A statistically significant median improvement of 20 points for DKS, 44 points for KOOS pain, 2D for KOOS symptoms and 48 points for KOOS ADL subscale were observed 6 months post-TKA.

Conclusion: It is the first study to explore post-TKA activity levels in patients, thus describing the changes which assess pain related symptoms, improved. However, there was only a modest improvement in physical activity measured by step counts and our study confirms at this early stage post-operatively that TKA improves pain but not necessarily to the same degree activity levels.

0040 – DOES PHYSICAL ACTIVITY CHANGE FOLLOWING TOTAL KNEE ARTHROPLASTY?

Brett Skelton, Ben Raphael, Amanda Williams1, David Sands (DS) Johnson1, Ahmad Bin Nasser1, Malcolm Granait, Richard Jones1

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erature. Statistically, if the initial operation was completed by a trainee it was more likely to require revision. Preoperative (99 patients) were assessed for trochlea dysplasia and patients with shallow or flat trochlea (49 patients) had a lower rate of revision to TKR (10.2%). Patelae height was also examined (83 patients) how-ever no statistical correlation was seen regarding revision rates. This study of PFA reported concludes that for carefully selected patients with a younger age average than TKR, who are of a higher body mass index (BMI) patients (BMI ≥ 40 kg/m²) that underwent primary TKA, compared to non-morbidly obese (NMO) patients (BMI ≤ 40 kg/m²). Secondary outcomes included Knee Society Objective Scores (KSS) between the two groups.

Results: Eleven studies were included in this review. There were 570 patients undergoing TKA, 308 were morbidly obese and 262 were non-morbidly obese patients.

1011 – THE ZIMMER-BIOMET PERSONA TOTAL KNEE REPLACEMENT: EARLY RESULTS
Wai Hung Tsoi, Faisal Mahmod, David Wallace, Jason Roberts, Robert O'Brien, Arun Kopyra
Golden Jubilee National Hospital, Glasgow, United Kingdom.

The Zimmer-Biomet Persona total knee replacement (TKR) is designed to maximise anatomical accuracy. As the system is new to market, there is a paucity of patient outcome data. We present early results of the system, particularly relevant in light of initiatives to reduce pain and optimise mobility. This was an observational prospective cohort study of patients undergoingPersona TKA in our high volume arthroplasty unit. Case series were undertaken for both sexes with a minimum follow-up of 2 years. Electronic patient records were reviewed to obtain patient report of early postoperative pain and mobility.

We report our early experience of the use of the system, particularly relevant in light of initiatives to reduce pain and optimise mobility. At an average follow-up time of 2 years (range: 0.5 to 13.2) respectively, with a revision rate of 8% and 2% respectively. Pre- and post-operative Knee Society Objective Scores (KSS) were poorer in MO patients, however, KSS improvement was comparable between groups.

Conclusions: This study demonstrates comparable revision rates following primary TKA in MO patients, however, these patients had an increased recovery time compared to the NMO group. MO patients should be fully informed of these issues prior to undergoing TKA.

1007 – MIDFEMORAL FEMORAL PINNING IN SINGLE BUNDLE ACL RECONSTRUCTION INCREASES GRAIL FAILURE RATE COMPARED TO STANDARD ANATOMIC RECONSTRUCTION
John Dabis, Zakia Borton, Sam Yam, Vassilis Zografopoulos
Basingstoke & North Hampshire NHS Trust, Basingstoke, United Kingdom.

Introduction: Traditional techniques for ACL reconstruction (ACLR) offer poor clinical outcomes in patients with a young age average than TKR, who are of a high body mass index (BMI) patients (BMI ≥ 40 kg/m²) that underwent primary TKA compared to non-morbidly obese (NMO) patients (BMI ≤ 40 kg/m²). Secondary outcomes included Knee Society Objective Scores (KSS) between the two groups.

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Results: Eleven studies were included in this review. There were 570 patients undergoing TKA, 308 were morbidly obese and 262 were non-morbidly obese patients.
0116 – OUTCOME OF TOTAL KNEE ARTHROPLASTY IN PATIENTS WITH POLIOMYELITIS
Anup Prasad1, James Hui Shan Tan1, Manoj Ramachandran1, Prabhjot Singh-Bowling3, Steven Millington1, Pramod Achani1, Sammy Hansa1
1Barts Health Royal London Hospital, London, United Kingdom.
2Barts and The London School of Medicine and Dentistry, London, United Kingdom.

Purpose: Total knee arthroplasty (TKA) in patients affected by poliomyelitis is technically challenging owing to abnormal anatomical features including articular and metaphysical angular deformities, external rotation of the tibia, excessive valgus alignment, bone loss, narrowness of the femoral and tibial canals, impaired quadriceps strength, flexion contractures, genu recurvatum and ligamentous laxity. Little information is available regarding the results and complications of TKA in this challenging group of patients.

Methods: We carried out a systematic review of the literature to determine the functional outcomes, complications and revision rates of TKA in patients with poliomyelitis-affected knees. Six studies including 82 knees were reviewed. The mean patient age was 63 years (45 to 85) and follow-up was 5.5 years (0.5 to 13).

Results: All studies reported significant improvement in knee function following TKA. There were 6 failures requiring revision in 82 cases (7%) occurring at a mean of 6.2 years (0.4 to 12). Reasons for revision were aseptic loosening (17%, n=1), infection (33%, n=2), periprosthetic fracture (17%, n=1), and instability (33%, n=2). Thirty-six knees had a degree of recurvatum pre-operatively (44%) (range 5-30 degrees). Ten of these knees (28%) developed recurvatum post-operatively.

Conclusion: The findings support the use of TKA in patients with poliomyelitis-affected knees. Post-operative functional outcome is similar to other patients; however, the revision rate is higher. Quadriceps muscle power appears to be an important prognostic factor for functional outcome, and the use of constrained implant designs is recommended in patients with less than antigravity quadriceps strength.

0117 – TIBIAL TUBERCLE POSITION: A NOVEL PARAMETER TO DEFINE PATELLOFEMORAL SYMPTOMS
Atanu Bhattacharjee, Mirriam Fahmy, Andrew P Davies
Morriston Hospital, Swansea, United Kingdom.

Background: The lateralised tibial tubercle (TT) is one of the contributors of patellar instability. Measurement of tibial tuberosity-trochlear groove distance provides no information about the position of the tibial tubercle.

Aim: Study of the tibial tubercle position (TTP) in patients with symptomatic patellofemoral (PF) maltracking is compared with patients having no patellofemoral symptoms.

Methods: MRI scans of 48 knees treated with tibial tubercle osteotomy (TTO) for PF symptoms and 20 knees with acute injuries but no PF symptoms (control group) are analysed. TTP is the ratio of the horizontal distance from the perpendicular drawn from the midpoint of the PT attachment to the maximum horizontal width of the tibia on the axial scan. The sagittal image corresponds to the most proximal part of the patellar tendon attachment on tbers by precise definition of PT on axial image.

Results: An independent sample t-test showed a significant difference (p=0.001) of the TTP between two groups. Mean (SD) TTP in patients with PF symptoms was 27.1+/-8.6 (95% CI 24.6-29.3), and the control group was 25.4+/-6.3 (95% CI 23.4-28.3). In control group, 19/20 knees (95%) had TTP > 29 however only 19/48 (29%) had TTP>29 in the group with PF symptoms implying a high incidence of lateralised tubercle in PF maltracking.

Conclusion: TTP can be used to define lateralisation of tibial tubercle in patients with PF symptoms. TTP can also be used as an objective measure for PF maltracking in symptomatic patients and potentially used to guide treatment.

0121 – MEDIAL ROTATION KNEE RANDOMISED CONTROLLED TRIAL: ALL-POLYETHYLENE VS METAL-BACKED TIBIAL COMPONENTS. A COST EVALUATION
Simon Lewthwaite, Niall Graham
The Robert Jones and Agnes Hunt Orthopaedic Hospital, Oswestry, United Kingdom.

In this prospective, randomised and blinded, multi-centre study we have examined the patient level costing for a single centre sub group of patients.

50 patients at the lead centre for the study had the cost of their inpatient episodes reviewed. There were 25 metal backed tibias and 25 all poly tibias. The total cost saving to the health care organisation of using an all poly tibia was 920GBP per case. Only 395GBP of this saving was directly attributable to implant cost saving. We examine the potential causes for this cost differential and the benefits of this implant design in the financially challenging environment for healthcare.

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BOA CONGRESS 2018
25th - 28th September, ICC Birmingham

Free member registration will close and non-member registration will open on Friday 1st June.

Join us in Birmingham to celebrate our 100th Anniversary!

The theme for the 2018 Congress is ‘Taking stock: Planning the future’

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Zimmer Biomet is the leading company in PKA¹ with over 40 years’ experience, offering a comprehensive range of anatomic and innovative solutions.
