

NAUGHTON DUNN CLUB

Friday 25th May 2018

Knowledge Hub
Royal Orthopaedic Hospital
Birmingham



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Welcome

As secretary I would like to welcome everyone to the spring meeting of the Naughton Dunn Club 2018. This particular meeting heralds what will hopefully be a new and exciting drive for Trauma & Orthopaedics in Birmingham and the wider region as the trainee developed and led Birmingham Orthopaedic Network (BON) continues to grow.

This has led to an unprecedented number of abstracts submitted for the meeting, including a number from outside the region. The quality has been exceptional and in order to accommodate this we have expanded our poster presentation section.

We are fortunate to welcome Professor Sir Keith Porter (Clinical Traumatology at University Hospital Birmingham) and Prof Phillip Turner (Vice President – British Orthopaedic Association) to give the FG Allen Lecture and the Naughton Dunn Lecture respectively and the I am sure their lectures will be extremely stimulating.

With an eye on the various exciting developments and future direction, it is with sadness we note the passing of Professor James Richardson (Oswestry) who graced us with an enthusiastic and inspiring presentation on cartilage restoration at the November 2017 meeting. He will be missed.

It promises to be a tremendous afternoon and we invite you to join us in the evening for the Naughton Dunn Club dinner but spaces are limited so sign up as soon as you with Mr Charlie Docker to avoid disappointment.

On that note I thank Miss Deepa Bose who has taken the role of President for 2018 and will host the next meeting of the Naughton Dunn Club at University Hospital Birmingham where we hope to continue our growth and renew our role as regional orthopaedic research meeting.

Ed Bache

Secretary

May 2018



Professor James Richardson

Professor James Richardson qualified in medicine in 1977 and completed his MD thesis on fracture healing and biomechanics at Oxford. During his career Professor Richardson worked in his native Inverness, then Nepal, India, Malawi, Glasgow, Oxford and before his appointment at RJAH, he was a Senior Lecturer and Honorary Consultant at Leicester University.



He was a senior registrar at Oswestry before becoming a Professor of Orthopaedics in October 1994. A Professor of Orthopaedics at Keele University and Director of the Institute of Orthopaedics, Professor Richardson had a long and illustrious career, which was recognised at the Trust's awards

ceremony in November where he was presented with the Chief Executive's Award for Inspirational Leadership.

The award celebrated the decision by NICE to approve a procedure called ACI for use at RJAH after 20 years of trials at RJAH and other NHS sites. The Professor had been at the forefront of this work throughout.

A highly regarded and well-respected surgeon he was known to be a genuine and caring individual whose drive to deal with difficult problems culminated in his success with his work on ACI. His enthusiasm and energy was witnessed during an inspirational talk he gave at the Naughton Dunn Winter Meeting 2017.

His untimely death whilst on holiday with his family comes as a shock and we extend our deepest sympathies to Professor Richardson's family and colleagues. His legacy will reflect his life as driving force in orthopaedics.

Image reproduced courtesy of RJAH Medical Illustration. Thanks to RJAH Communication team for details.



GUEST LECTURES

FG Allen Lecture – Professor Sir Keith Porter

“Things I wish I had known as a registrar”

Professor Porter was educated at Marlborough College and St Thomas’s Hospital, London. He was appointed Consultant Trauma Surgeon at Birmingham Accident Hospital in 1986, a service that is now delivered at Queen Elizabeth Hospital Birmingham, where he is both Professor of Clinical Traumatology and the Clinical Director of the Major Trauma Centre.

He is the clinical lead for injured soldiers returning to the UK for the last decade including both the Iraq and Afghanistan wars.



Professor Porter has been a leader in the development in the new medical subspecialty of pre-hospital emergency medicine and until recently Chairman of the Faculty of Pre-Hospital Care and also the Intercollegiate Board for Training in Emergency Medicine. He is Chair of the Trauma Care Council and co-editor of the journal “Trauma”.

Professor Porter has over 150 peer review publications and has co-authored/edited numerous books.

For his services to the military he was knighted in the 2010 Queen’s New Year’s honours list.



Naughton Dunn Lecture – Professor Phillip Turner

“Training in Trauma and Orthopaedics – the next five years”

Professor Philip Turner has been a consultant orthopaedic surgeon based at Stepping Hill Hospital, Stockport, UK since 1990. He is the senior surgeon in the department and specialises in all aspects of knee surgery having established a tertiary referral unit for complex knee problems.



His clinical interests are in sports injuries of the knee, complex knee ligament reconstructions, and the arthritic knee in younger patients, disorders of the patello-femoral joint and the failed knee replacement.

He is a Council and Executive member of the BOA and President from 2018 to 2019. He has previously been the

North West Orthopaedic Training Programme Director, Head of the HENW School of Surgery, Chair of the Confederation of Post-Graduate Schools of Surgery and Chair of the BOA Training Standards and Curriculum Committee.

He has been involved in surgical education throughout his career and has been the Chair of the IQA Committee of the Joint Committee on Intercollegiate Examinations. He was awarded the Fellowship of the Faculty of Surgical Trainers of the RCS Edinburgh in 2016.

He is active in promoting research and service delivery in his role as a domain clinical lead in the Manchester Academic Health Science Centre and Chair of the Greater Manchester Orthopaedic Alliance. He holds an Honorary Professorship in the School of Health Sciences at the University of Salford.



The Birmingham Orthopaedic Network (BON) – www.bon.ac.uk

The BON was set up as multipurpose platform for Trauma & Orthopaedics in the West Midlands. The initial remit was to promote collaborative audit and research, the value of which is increasingly recognised nationally. But it has rapidly expanded to include education and training for registrars, junior trainees, medical students and other healthcare professionals.

Our activity has been broad as we have pursued a policy of “just do it”. Our regular Trainee Research Group meetings have led to the completion of one regional audit, two regional audits in progress, participation in one national audit and most recently an invitation to join a multicenter research study on Cauda Equina Syndrome.

On a smaller scale we’ve had the good fortune of engaged medical students with several projects being carried out and culminating in one national poster, two local podium presentations (of which one is leading a policy review) and data contribution to a multicenter research project. This surgical trainee led supervision/mentorship of medical students is something we hope to continuously develop.

Our educational activity has seen the development of an online archive for surgical trainees, but also the groundwork for medical student material is being laid with presentations, podcasts and other such materials. Opportunities are abundant and there are prospects being cultivated of collaboration with both academia and industry in the realms of virtual reality.

In addition to having a bold view of the future, we have also taken an opportunity to reflect on the past. I’ve been in touch with many former trainees and have created a list going back to the mid-nineties of some the illustrious names that have walked our paths before us. Some of the more recent alumni have contributed their fellowship experiences for future reference.



The real driving force behind this has come from the immense support on both an institutional and individual level. Mr David Richardson (on behalf of the ROH) has facilitated the development of the web platform, Mr Brett Ellis and Miss Laura Jones have carried out tremendous administrative work on web development and all three of them have been instrumental in developing strategy and ensuring the foundations of this project are sturdy and above reproach.

Mr Khalid Baloch, Mr Subodh Deshmukh Prof Edward Davis, Mr Ed Bache and Mr Adrian Gardner have in their various consultant roles been incredibly encouraging and have weighed in with support when needed to maintain our current trajectory. The BOTP trainees have been engaged with the venture but special thanks go to Mr Emir Battaloglu and Mr Shahbaz Malik who have taken charge of certain parts of the BON project to get it airborne.

At this point, having reflected on what has been an incredibly busy but productive twelve months for me personally, I look to pass this particular baton on to an enthusiastic group who have been open to changing the culture to a more collegial one. In time the BON will attain national recognition as being an organisation that facilitates and nurtures ideas and brings them to bring fruition not only for better patient care but also for personal and professional growth.

A personal thanks goes to Mrs Sandra Johnson-Hall and Mr Tim Graham (on behalf of HEE) who invested in my enthusiasm and have offered me every support possible, including a bursary, to get this project running. Their mentorship has been greatly appreciated.

Usman Ahmed MBBS PhD FRCS(Tr&Orth)

Lead Developer and Chairman – Birmingham Orthopaedic Network
Senior Registrar – Birmingham Orthopaedic Training Programme
British Orthopaedic Association Clinical Leadership Fellow 2017/18



PROGRAMME

13:00 - Registration and Lunch

Session I (6 x 10 min slots) - Chair: Miss D Bose

13.30 – Undisplaced Intracapsular Hip Fractures - Is Fixation Doomed to Fail? G Chauhan, P Raval, A Mahmood

13.40 – Outcomes following distal tibia fractures: A comparison of intramedullary nailing versus ring fixator. N.Lotfi, R. Thangaraj, B Fischer, P Fenton

13.50 – The management of isolated greater trochanter fractures: is cross-sectional imaging necessary? D Thurston, B Marson, H Jeffery, B Ollivere, T Westbrook, C Moran

14:00 – Virtual fracture clinic services and Patient satisfaction audit at Russells Hall hospital, Dudley. AK Singh, F Chaudhry, A Akbar, M Sinha

14:10 – The BON Open Fracture Audit – Inaugural Collaborative Project – Conception, Implementation and Challenges – E Battaloglu on behalf of the BON

14:20 – Regional management of Metastatic Spinal Cord Compression and Spinal Metastasis in the West Midlands - H Rajgor, S Hughes, M Grainger

14:30 – **FG Allen Lecture – Professor Sir Keith Porter**

15:00 -----**BREAK**-----

Session II (4 x 10 min slots) - Chair: Mr E Bache

15:15 – Minimally invasive (MIS) Tönnis osteotomy- A technical annotation and review of short-term results. B Balasubramanian,



M Racy, S Madan.

15:25 – Do Hip Stability and Quadriceps Function Affect Long Term Ambulation in Myelomeningocele? O Alo, CE Bache

15:35 – Developing a Protocol to Analyse the Efficacy of Producing 3D-printed Hand Splints for Children with Cerebral Palsy. E Wainwright, S Deshmukh, L Leslie, S Junaid

15:45 – Does Spinal Fusion and Scoliosis Correction Improve Activity and Participation for Children With GMFCS level 4 and 5 Cerebral Palsy? CN Wallace, J. Lehovsky

15:55 – **TIG Fellowships – A Marsh**

16:00 – **Regional Image Sharing Platform – P Das**

16:05 -----**BREAK**-----

16:15 – **Naughton Dunn Lecture – Professor Phil Turner**

Session III (6 x 10 min slots) Chair: Mr C Docker

16:45 – patient reported outcomes following patellofemoral arthroplasty with and without patella resurfacing; a retrospective single centre study. A Lloyd, S Kulkarni, D Prakash

16:55 – Clinical outcomes proximal patella realignment using a quadriceps advancement flap for patellofemoral instability. K Osman, NG Wayne, D Prakash

17:05 – Are temporary operating theatres really associated with an increased risk of deep periprosthetic joint infection? RW Jordan, N Smith, C Nolan, G Chahal, P Wall, J Young.

17:15 – Injectable and self-setting alginate gel system for prolonged and controlled elution of antibiotics for orthopaedic applications. R Nandra, R Williams, J Blair, L Grover

17:25 – Improved local control with pre-operative and proton beam



radiotherapy regimes for central Ewing's sarcoma. JR Lex, S Evans, M Parry, JD Stevenson, LM Jeys

17:35 – A novel technique for distal fixation of lengthening rods in early scoliosis correction - H Dong, R Nandra, E Laugharne, J Mehta, N Newton-Ede, J Spilsbury, D Marks

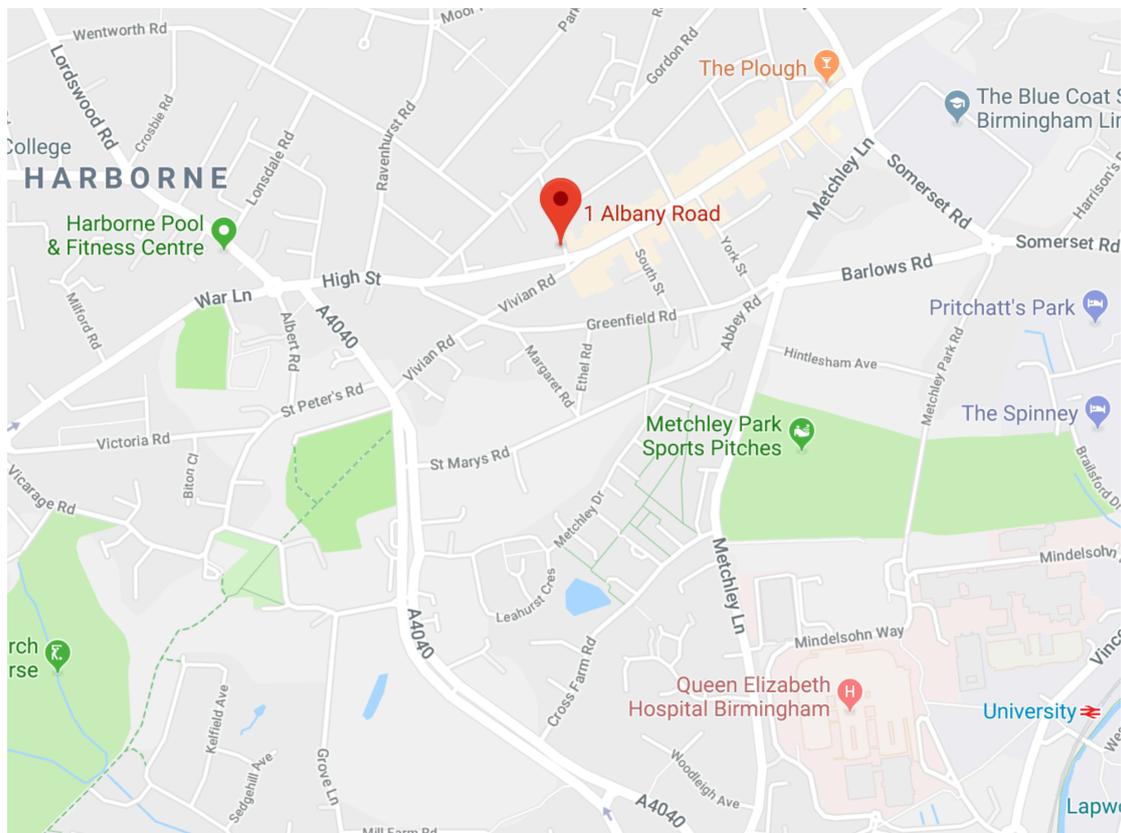
17:45 – Award Presentation

18:00 – Close

18:30 – Dinner at Buonissimo

Buonissimo Instructions

- Italian Restaurant - menu at buonissimouk.com
- 1 Albany Rd, Birmingham B17 9JX
- £15 per person, spaces are limited!



Please contact Mr C Docker to secure a place at the NDC Dinner



Posters

- 1 – A retrospective review to assess whether spinal fusion and scoliosis correction improved activity and participation for children with Angelman syndrome. CN Wallace, J Iehovsky
- 2 – Shoulder linked arthroplasty in patients with obstetric brachial plexus palsy can improve quality of life and function at short-term follow-up. CN Wallace, SM Lambert
- 3 – Reasons underlying inter-hospital transfers of Elective Orthopaedic patients: a retrospective service evaluation. S Bleibleh, J Sandhu, R Dias
- 4 – The impact of a daily trauma metalwork review on dynamic hip screw tip apex distance and performance. E Ramhamadany, R Payne, R Wall, J Ward
- 5 – Shoulder arthroplasty, the Royal Wolverhampton experience. M Sidhu, M Bickley, J Lynch, S Malik, T McBride
- 6 – Patella dislocation: an online video analysis of the mechanism of injury. V Dewan, MSL Webb, D Prakash, A Malik, S Gella, C Kipps
- 7 – Code Red Trauma Activation in a Major Trauma Centre: 2nd Cycle Audit. A Tulwin, A Beaven, L Fowler, R Moss
- 8 – Improving Theatre Start Time A Quality Improvement Project. J Rooker, O Uhiara, G Titley
- 9 – Development of a Smart Elbow Prosthesis. MM Khalid Khan, S Deshmukh, K Theivendran, L Leslie, S Junaid.
- 10 – Glucosepane : A New Biomarker Of The Severity Of Osteoarthritis. U Ahmed, C Lambert, C Legrand, A Anwar, K Rajpoot, S Pasha, R Davidson, I Clark, P Thornalley, N Rabbani, Y Henrotin



- 11 – Direct Anterior Approach without traction table for Total Hip Replacement - Single surgeon learning curve – S Vayalapa, U Ahmed, N Lofti, P Pynsent, C McBryde
- 12 – Management of surgical site infection (SSI) at a UK orthopaedic tertiary centre – the Birmingham experience - U Ahmed, F Wong, S Malik, S Hussain, N Reeves, S Mimmack, A Pearson, D Dunlop
- 13 – Survey of UK consultant hip surgeons opinions of surgeon specific data publication in orthopedic surgery - U Ahmed, S Malik, O Jarral, Y Shaik, Z Shah, W Hart, D Dunlop



PODIUM PRESENTATIONS

13.30 – Undisplaced Intracapsular Hip Fractures - Is Fixation Doomed to Fail? G Chauhan, P Raval, A Mahmood

10% of fragility hip fractures are either valgus impacted or undisplaced. However, there remains no consensus on whether they are best managed with internal fixation or replacement. We conducted a local database search to identify 100 patients with internally fixed intracapsular hip fractures. 15% were fixed with cannulated screws, the remainder with a dynamic hip screw. 63 patients had secondary procedures (10 revision to total hip arthroplasty, 2 removal of metalwork only, 1 revised due to periprosthetic fracture). 12 (19) were satisfactory radiologically. There were 5 inpatient deaths, and a 16% overall 1-year mortality. The mean length of stay was 20-days. Our results show a high rate of revision surgery and late complications (40% total) after internal fixation of undisplaced intracapsular hip fractures.

13.40 – Outcomes following distal tibia fractures: A comparison of intramedullary nailing versus ring fixator. N.Lotfi, R. Thangaraj, B Fischer, P Fenton

Introduction:- Distal tibial fractures are challenging to manage. There remains debate as to the optimum method of fixation. We assess the surgical and PROMs of these injuries managed with intramedullary-nails or circular-frames.

Methods:- A retrospective study of adults with closed distal tibial fractures fixed with intramedullary-nail or circular-frame managed between 01/01/2013-31/12/2016 was performed. Primary outcomes were time of union, alignment of tibia and the results of two validated PROMs post-operatively.

Results: 12 patients had circular-frame and 14 patients underwent intramedullary-nailing. PROMS were completed in 6 (50%) of the frame group and 6 (43%) of the nail group. There was a statistically significant difference in sagittal angulation from neutral ($p=0.041$) and in the knee score favouring the frame group ($p=0.041$).

Discussion: Our results show distal tibia fractures can be treated with circular-frames or intramedullary-nails. Patients at high-risk of soft tissue complication or to minimise the risk of knee symptoms should be considered for a circular-frame.



13.50 – The management of isolated greater trochanter fractures: is cross-sectional imaging necessary? D Thurston, B Marson, H Jeffery, B Ollivere, T Westbrook, C Moran

Isolated greater trochanter (GT) fracture is an uncommon presentation, historically managed non-operatively, but modern imaging has made it increasingly possible to detect occult intertrochanteric fracture extension. We completed a retrospective review of patients admitted with GT fractures and case-matched them with 2-part extracapsular fractures. Initial management and clinical outcome was established using notes and radiographs. Mortality and length of stay was calculated for both groups. 85 GT fractures identified from 2006-2017. 81/85 treated non-operatively. 78/81 mobilised full weight bearing. None required readmission/operation due to fracture displacement. 58/85 had cross-sectional imaging (MRI or CT); 15/58 had intertrochanteric fracture extension. In the same time period, 998 2-part extra-capsular fractures were treated, using a sliding hip screw. Length of stay was significantly shorter in patients with GT fractures (median 7 days vs 14 days, $p < 0.0001$). 30-day mortality was 11.9%, with no significant difference to patients with 2-part extracapsular fractures. Cross-sectional imaging rarely altered management for isolated GT fractures. The outcome following non-operative treatment is good even in the presence of occult fracture extension. We advocate early mobilisation and repeat plain radiographs if patients fail to progress. This will reduce unnecessary morbidity from fixation of stable occult fractures.

14:00 – Virtual fracture clinic services and Patient satisfaction audit at Russells Hall hospital, Dudley. AK Singh, F Chaudhry, A Akbar, M Sinha

Introduction:- VFC services were first started at Glasgow and helped them reduce waiting times and economic burden.

Aim:- The aim was to evaluate VFC services and patient satisfaction in our department.

Methods:- It was a retrospective analysis of patient seen in VFC at Russells Hall Hospital between 22/11/17 - 27/12/17 referred from the ED. The data was collected using the VFC form. Patient satisfaction was enquired over telephone.



Results:- 124 patients were referred. 49(40%) were followed up. Out of which 5(4%) had surgery, 14(11%) in nurse lead clinic, 40(32%) in general clinic. 80 patients were contactable for satisfaction survey. 68/80(85%) were happy with the information. Three months later 66/80(83 %) have manageable pain and 68/80(85%) have returned back to normal activities.

Conclusion:- The VFC services reduce patient's appointments and save money for the trust by reducing staff requirement and resource utilisation.

14:10 – The BON Open Fracture Audit – Inaugural Collaborative Project – Conception, Implementation and Challenges – E Battaloglu on behalf of the BON

Introduction: The management of severe open fractures within the West Midlands Trauma Network requires a well-co-ordinated and collaborative effort between pre-hospital services, regional emergency & trauma units, as well as the regional major trauma centre limb reconstruction unit.

Aims: Understanding of the epidemiology and management of open fractures within the West Midlands – Birmingham region.

Objectives: Prospective identification of patients for inclusion, emergency management strategy compliance & surgical management strategy compliance.

Methods: Simultaneous local audit, following identical protocol for evaluation of national standards, across the West Midlands region. Prospective data collection over a four week period. Data collection using hospital electronic and paper records, radiology systems and surgical records. Comparison made against British Orthopaedic Association Standards for Trauma 4: Management of Severe Open Lower Limb Fractures (Standard 1, 7, 8, 9, 10, 11, 13, 14, 15)

Results: Participant hospitals included; QEHB, BCH, SWBH, WRH, NXH, WMH, RED. Non-participant hospitals were RHH & HCH. Excluded hospital was ROH (no emergency department).

A total of 12 patients were identified during the studied period.

Overall audit standard compliance was 86%. 50% of patients met all audit standards fully. Splintage and wound dressing compliance: 100%, Topical negative pressure dressing compliance: 94%, skeletal stabilisation within 7 days compliance: 84%, antibiotic prescription compliance: 75%, debridement within 24 hours compliance: 66%.



Recommendations: Clinical education for regional Trauma Units, promote inter-hospital communication and the role of the Orthoplastic Extremity Trauma (OPET) service at QEHB, review pre-hospital antibiotic prescription and administration protocol.

14:20 – Regional management of Metastatic Spinal Cord Compression and Spinal Metastasis in the West Midlands - H Rajgor, S Hughes, M Grainger

Aims:- The primary objective of this study was to evaluate the management of MSCC and spinal metastasis in accordance to NICE guidelines within the West Midlands. A definitive treatment plan should be in place within 24 hours in patients who have neurological symptoms or signs suggestive of MSCC or within 1 week of suspected spinal metastasis with no neurological compromise.

Method:- A Retrospective review of prospectively collected data using a spinal on call database, imaging and clinical notes was performed at a tertiary referral centre. This was between October 2017 to January 2018. 46 patients were included with referrals from 10 hospitals and primary care. Information was collated on diagnosis based on referral, definitive management plan, percentage of referrals requiring operative management, completeness of imaging at time of referral and delays in treatment. Individual hospital data was also collated.

Results:- 18% of total referrals to the Spinal service at ROH are for MSCC or suspected spinal mets. MSCC was diagnosed in 42 of referrals. 64% of patients with neurological compromise and 48% of patients with suspected spinal mets had definitive plans in accordance to NICE guidelines. 21% of referrals required operative management. Treatment delays were also identified. (Compliance per hospital UHB 100, SWBH 60, WRH 50%).

Conclusion:- Only 64% with neurological symptoms have a definitive plan within 24 hours. This highlights the difficulty in diagnosis and management of MSCC. A concerted effort is required to significantly improve as a region. We suggest a MSCC protocol per trust to improve management and better co-ordination with the tertiary referral centre to improve patient care. Communication from the ROH to referral centre also requires improvement.



15:15 – Minimally invasive (MIS) Tönnis osteotomy- A technical annotation and review of short term results. B Balasubramanian, M Racy, S Madan.

Aims:- We detail a modified single incision approach to perform the Tönnis triple pelvic osteotomy by a minimally invasive approach.
Patients and Methods:- 12 children underwent minimally invasive Tönnis Osteotomy. There were five boys and seven girls in this study group. Average age was 11 years (9-15 years) at the time of surgery. Mean follow-up was 20.5 months (13-39 months).

Results:- The average preoperative Antero-Posterior (AP) Centre Edge (CE) angle was -8.8° (-38.6° - 18°), the average postoperative AP CE angle was 29.7° (25.1° - 43.7°). The average preoperative lateral CE angle was -4.7° (-16° - 0°), the average postoperative Lateral CE angle was 28.5° (21.3° - 37.4°). The Sharp's angle before and after surgery were 55.7° (51.3° - 66°) and 32.4° (16.1° - 40.1°) respectively. The mean Tönnis angle before and after the osteotomy were 28.86° (19.7° - 43.4°) and 6.3° (0.5° - 9.4°) respectively. There was one major complication with sciatic nerve palsy which is in the recovery phase on followup and six minor complications including two cases of transient lateral femoral cutaneous nerve injury, two cases of ischial non-union, over granulation of the wound in one case, and metalwork irritation in one case.

Conclusion:- We have described a minimally invasive Tönnis osteotomy as a viable option based on our results. This technique is recommended for those who are conversant with the traditional pelvic osteotomies.

15:25 – Do Hip Stability and Quadriceps Function Affect Long Term Ambulation in Myelomeningocele? O Alo, CE Bache

Hip problems including dysplasia and dislocation are well recognised in patients with spina bifida; myelomeningocele. This study seeks to define the role of ultrasound screening as a potential predictive tool for joint congruity and ambulation, and to define any relationship with neurological level/function. 84 hips in 42 patients were analysed. 75% of hips were Graf I, 9% Graf II, 2% Graf III and 14% were Graf IV. Average age at scan was 7weeks. Mean follow-up was 69months, 74% of hips had quadriceps activity. 77% Graf I hips were enlocated at last follow-up compared with 50% Graf 4 hips. 79% of ambulant patients were Graf I. 36% of non-ambulant patients had a high lesion (L2 and above) compared with 4% of patients in the ambulant group. 100% of



community ambulant patients had active quadriceps. 20% of non-ambulant patients have active quadriceps. We conclude that high lesions are more prevalent in non-ambulant patients. 57% of stable hips at ultrasound screening (Graf I) were independently ambulant at last follow-up. Quadriceps activity is therefore more strongly predictive for independent ambulation than ultrasound stability at initial screening.

15:35 – Developing a Protocol to Analyse the Efficacy of Producing 3D-printed Hand Splints for Children with Cerebral Palsy. E Wainwright, S Deshmukh, L Leslie, S Junaid

Hand splints are widely used to improve functional performance in grasping activities, as part of a long-term treatment regimen in cerebral palsy (CP). Currently, splints are custom made by moulding thermoplastics to the patient. However, the accuracy of the splints produced via this method is highly dependent on the expertise of the skilled practitioners, and variability is common. 3D-imaging technology has the potential to be used to improve the accuracy of customised splints. This study describes the development of a protocol to analyse the efficacy of producing additive manufactured functional wrist splints for children with cerebral palsy. There were two clear aims; to develop a reverse engineering (RE) workflow process for use in producing additive manufactured wrist splints and to set-up a system for testing the efficacy of additive manufactured wrist splints using quantitative, by performing grasp strength tests (using a subject group of $n = 1$), and qualitative data, in the form of a user feedback questionnaire. The design and selection of the various hardware and software used in the RE process was focused on achieving accurate geometrical representation of the hand in the scan data at a low-cost and user-friendly experience. The RE process presented in this study offers a fast and simple method for creating an accurate hand splint CAD model from triangular mesh scan data, whilst highlighting the pitfalls of scanning using a real-time scanning device. Initial grasp strength tests were inconclusive as a result of a poor fitting additive manufactured wrist splint. However, the method used during this study is suitable for use as a baseline for future testing with a cerebral palsy subject group.

15:45 – Does Spinal Fusion and Scoliosis Correction Improve Activity and Participation for Children With GMFCS level 4 and 5 Cerebral Palsy? CN Wallace, J. Lehovsky



Spinal fusion is used to treat scoliosis in children with cerebral palsy (CP). Following intervention, the WHO considers activity and participation should be assessed to guide intervention and assess the effects. This study assesses whether spinal fusion for scoliosis improves activity and participation for children with severe CP. Retrospective cohort study of 70 children (39M:31F) with GMFCS level 4/5 CP and significant scoliosis. Thirty-six underwent observational and/or brace treatment as the sole treatment for their scoliosis, and 34 underwent surgery. Questionnaire and radiographic data were recorded over a 2-year period. The ASKp was used to measure activity and participation. In the observational group, Cobb angle and pelvic obliquity increased from 51 (40-90) and 10 (0-30) to 70 (43-111) and 14 (0-37). Mean ASKp decreased from 16.3 (1-38) to 14.2 (1-36). In the operative group, Cobb angle and pelvic obliquity decreased from 81 (50-131) and 14 (1-35) to 38 (10-76) and 9 (0-24). Mean ASKp increased from 10.5 (0-29) to 15.9 (3-38).

16:45 – patient reported outcomes following patellofemoral arthroplasty with and without patella resurfacing; a retrospective single centre study. A Lloyd, S Kulkarni, D Prakash

Background: Isolated patellofemoral osteoarthritis (OA) occurs in around 10% of patients with symptomatic knee OA, with afflicted individuals typically presenting at young ages (<55 years) and whose cases can be difficult to manage. In recent years, promising mid-term results with second generation patellofemoral prostheses has renewed interest in this treatment modality.

Methods: The aims of this study were to evaluate patient reported outcomes (PROMs) both before and after patellofemoral arthroplasty and compare outcomes with patients who had undergone trochlea replacement only, versus those who also underwent patella resurfacing.

Results: In total, 63 patients were identified who had undergone patellofemoral joint replacement (PFJR) with and without patella resurfacing. Mean post-operative follow up across both groups was 3.4 years. Of those who underwent trochlea replacement only, mean WOMAC and KOOS-PF scores improved post-operatively by 10.6 points ($p=0.02$) and 16.8 points ($p=0.02$) respectively. Of the group who had patella resurfacing as part of their PFJR, mean WOMAC and KOOS-PF scores improved post-operatively by 31.5 points ($p=0.006$) and 16.8 points ($p=0.006$) respectively. Analysis of WOMAC and KOOS-PF scores



for both groups pre-operatively showed groups were comparable prior to respective operative treatment (p=0.81; p=0.83 respectively). Analysis of postoperative WOMAC and KOOS-PF scores revealed no difference in post-operative outcomes between treatment groups (p=0.18; p=0.24 respectively).

Conclusions: This study is the first to report PROMs following PFJR both with and without patella resurfacing and indicates that both treatments are associated with significant improvements in PROMs postoperatively; however, patella resurfacing offers no additional improvement in PROMs compared with trochlea replacement only.

16:55 – Clinical outcomes proximal patella realignment using a quadriceps advancement flap for patellofemoral instability. K Osman, NG Wayne, D Prakash

Medial Patello-Femoral Ligament (MPFL) reconstruction is frequently used as a first line surgical procedure for patients with patellofemoral instability despite relatively common complications such as graft failure, patella fracture & stiffness leaving the surgeon with limited salvage options if they occur. Consequently, we are seeing a resurgence of less invasive soft tissue realignment procedures in the hope of avoiding reconstruction. One of these procedures involves advancement of Vastus Medialis Oblique (VMO) from its superior attachment to a more distal & medial position on the patella. We report the clinical outcomes of patients < 50 years who underwent VMO advancement for patella instability by a single UK surgeon. 13 were identified from records, of which 4 were un-contactable and 1 was excluded due to a concomitant ACL rupture. Mean age was 24 years and male:female ratio was 1:4 (n=8). Mean F/U was 10 months. 5 patients reported excellent/good outcomes on the Lysholm & Kujala knee scores. All patients could fully extend & 6 could fully flex their knee but only 1 reported increased stiffness post-surgery. 3 patients reported persistent but only 1 suffered further dislocations. All 8 would recommend the procedure to a loved one. There were 2 non-surgery related complications. We suggest that for patients with patellar instability excellent/good clinical results and a low re-dislocation rate can be achieved with VMO advancement flap for the majority of patients. This or similar soft tissue realignment procedures should be considered in an escalation of treatment prior to consideration for MPFL reconstruction.



17:05 – Are temporary operating theatres really associated with an increased risk of deep periprosthetic joint infection? RW Jordan, N Smith, C Nolan, G Chahal, P Wall, J Young.

Infection following total hip or knee arthroplasty is a serious complication. Previous studies have suggested that temporary operating theatres may be associated with an increase incidence of infection, with the authors hypothesising that maybe related to laminar flow disturbance. Our aim was to review all hip and knee arthroplasties performed at our centre over an 18 month period. During this period 1888 patients underwent surgery; 1362 at our elective unit, 328 at our trauma centre and 198 in the temporary theatre. There were 13 deep infections (0.69%) of which the highest rate was at our trauma centre (1.52%) with similar levels in both the elective centre (0.51). In conclusion, the rate of deep periprosthetic joint infections at our centre is comparable or better than that published in the literature. The temporary theatre does not seem to be associated with increased infection at our centre.

17:15 – Injectable and self-setting alginate gel system for prolonged and controlled elution of antibiotics for orthopaedic applications. R Nandra, R Williams, J Blair, L Grover

We lack cost effective local antibiotic delivery systems in orthopaedic surgery. This study presents a novel injectable biodegradable device. 2%wt alginate hydrocolloid with antibiotic were characterised by parallel plate rheology. Gels added to bone marrow stromal cells to assess cell viability using confocal microscopy live/ dead staining. Antibiotic elution into phosphate buffered saline quantified with HPLC. Agar plates inoculated with MRSA and E.colito determine anti-microbial activity (ZOI studies). Gel plus gentamicin showed cell death aVer 3 days, but Gel plus Vancomycin showed cell viability beyond seven days. Elution studies showed a linear dose dependant release of antibiotic, sustained beyond 3 weeks, achieving MIC during this period for MRSA strains. We identified the cell toxicity of gentamicin, vancomycin is less toxic . The gel's sheer-thinning injectability and predictable release kinetics are suited to orthopaedic use. Potent antimicrobial activity was seen across a range of Gram positive and Gram negative bacteria.



17:25 - Improved local control with pre-operative and proton beam radiotherapy regimes for central Ewing's sarcoma. JR Lex, S Evans, M Parry, JD Stevenson, LM Jeys

Introduction:- Current treatment for Ewing's sarcoma is multimodal, including systemic chemotherapy and local control with surgery and adjuvant radiotherapy. Traditional photon beam radiotherapy alone has proven to be acceptable in achieving local control¹. Ewing's sarcomas arising within the axial skeleton have been associated with an overall worse prognosis². Oncological outcomes for pre-operative radiotherapy and proton beam radiotherapy for central Ewing's sarcomas at our institution were reviewed.

Patients and Methods:- 37 patients with central Ewing's sarcoma who underwent surgical intervention between 1999 and 2016 were identified (30 pelvic, 4 spine, 3 thoracic). All patients underwent staging and received chemotherapy (primarily the VIDE regime) according to international guidelines. Radiation was used pre-operatively in 19 patients and post-operatively in 18 patients. Within this same cohort, 28 patients underwent traditional photon radiotherapy and 9 patients received proton beam radiotherapy, 7 received it pre-operatively and 2 received it post-operatively. Pre-and post-operative radiation doses were in accordance with Euro-ewing 99 and 2012 protocols.

Results:- Mean ages were 19.8 and 17.1 and mean follow-up was 6.4 and 1.9 years in the post-operative and pre-operative radiotherapy groups, respectively. Good necrosis results (>90% necrosis) were seen in 7/18 of the post-operative patients and 18/19 of the pre-operative patients. There were significantly lower rates of local recurrence and metastasis with patients who received pre-operative compared to post-operative radiotherapy but no significant difference in overall survival (chi-squared test, $p=0.04$, $p=0.03$ and $p=0.42$ respectively). Patients who received proton beam radiotherapy had significantly lower local recurrence and overall survival rates but no significant difference in the rate of metastasis (chi-squared test, $p=0.05$, $p=0.03$ and $p=0.29$).

Conclusions:- These early, mid-term results suggest that pre-operative radiotherapy and novel proton beam radiotherapy, in combination with an internationally recognised chemotherapy regime, may offer improved local control compared to post-operative and traditional photon beam radiotherapy for central Ewing's sarcoma, respectively.



17:35 - A novel technique for distal fixation of lengthening rods in early scoliosis correction - H Dong, R Nandra, E Laugharne, J Mehta, N Newton-Ede, J Spilsbury, D Marks

Surgical correction of early onset scoliosis is challenging: managing deformity correction whilst facilitating spinal growth and lung development has historically shown high complication rates. Growing rods with pedicle hooks are prone to displacement so we propose a technique using distal pedicle screws to provide a stable foundation and lower failure rates. We performed a retrospective study of thirteen children with early onset scoliosis treated with vertical expandable titanium prosthetic rib implant (VEPTR) at ROH between 2007 and 2017. Average age at index surgery: 4years, 8 male and 5 female patients. Mean follow-up of 5 yrs. Serial radiographs revealed improvements in cob angle (mean 15 degrees), T1 to S1 height (19%) with no deterioration in distal LIV tilt angle. We report no distal fixation failure, pedicle screw migration or revision. We report a novel safe technique with advantageous distal fixation for VEPTR lengthening of paediatric early scoliosis.



Posters

1 – A retrospective review to assess whether spinal fusion and scoliosis correction improved activity and participation for children with Angelman syndrome. CN Wallace, J lehovsky

OBJECTIVE: This study investigates outcome of scoliosis treatment for 11 children with Angelman syndrome (AS), with particular focus on activity, participation and the musculoskeletal factors that may affect these outcomes.

METHODS: Retrospective review of medical records, radiographs and questionnaires administered to caregivers of 11 children (8M:3F) with AS and scoliosis. Six underwent observational treatment during childhood and five underwent spinal fusion. The Activities Scale for Kids (ASKp) questionnaire was used to measure activity and participation. Questionnaire and radiographic data were recorded over a 2 year period.

RESULTS: In the observational group, scoliosis increased from 31° to 46°. Mean ASKp decreased from 13.8 to 11.9 ($p = 0.06$). In the operative group, scoliosis decreased from 68° to 29°. Mean ASKp increased from 11.4 to 15.9 ($p < 0.01$). There was also a reduction in spinal-related pain and mean number of hospital admissions for chest infection.

CONCLUSION: In children with significant scoliosis and AS, spinal fusion was associated with a small improvement in activity and participation, reduction in pain and a decrease in frequency of severe chest infections. Non-operative treatment resulted in progression of scoliosis during childhood and decrease in activity.

2 – Shoulder linked arthroplasty in patients with obstetric brachial plexus palsy can improve quality of life and function at short-term follow-up. CN Wallace, SM Lambert

BACKGROUND: Patients with obstetric brachial plexus palsy (OBPP) are prone to develop degenerative shoulder disease at a younger age than the general population. To date, no reports have been published on the complexities or outcome of shoulder arthroplasty (SA) in this unique patient group.



METHODS: We reviewed of 9 SAs in 9 patients (3 men and 6 women) with OBPP with mean follow-up 5.1 years (range, 2.6-7.6 years). Patients were a mean age of 29 years (range, 16-56 years). Patients had undergone a mean of 3 previous operations (range, 2-6). All patients underwent linked constrained SA.

CONCLUSIONS: SA is effective at relieving pain and health-related quality of life for young patients with OBPP; however, compared with the general population, the complication rate is high and functional gains are small.

3 – Reasons underlying inter-hospital transfers of Elective Orthopaedic patients: a retrospective service evaluation. S Bleibleh, J Sandhu, R Dias

Introduction: Royal Wolverhampton Hospitals NHS Trust acquired Cannock Chase Hospital (CCH) in November 2014. The lack of on-site acute service support, gave cause for concern that patients at CCH are vulnerable to a lower standard and delivery of medical care should they deteriorate. There has been from the outset of RWT acquiring CCH, a robust and comprehensive Transfer Policy covering the needs of anyone becoming unwell at CCH. However, since 2014 there has been no systematic review of transfers from CCH into New Cross (NXH).

Methods: This retrospective review of patients transferred from CCH to NXH between October 2015 and 11 November 2016 aims to enumerate such transfers to determine the underlying reasons.

Results: We identified 42 orthopaedics patients who were transferred. The overall incidence of transfer was 2.9% of inpatient cases. The comment reasons for transfer were suspected PE (31%), new cardiac event (24%) and for surgical review (19%). The standard of documentation of any consultation with a consultant or a senior registrar was consistent and clear in most cases.

Conclusions: Most of these patients requiring transfer do not appear to be at high risk for post-operative deterioration. Thus, majority of patients undergoing surgery at CCH, their surgery is safely and efficiently carried out there. We recommended split site working physician and provide adequate rescuers would prevent unnecessary IHT's.



4 – The impact of a daily trauma metalwork review on dynamic hip screw tip apex distance and performance. E Ramhamadany, R Payne, R Wall, J Ward

Tip apex distance (TAD) >25mm has been shown to be correlated with increased failure of fixation and cut out of dynamic hip screw fixation(DHS). A daily metalwork review was introduced allowing consultants and trainees to review the previous days intraoperative imaging. It was proposed this could improve DHS performance by promoting greater reflection and learning through close review of the images. Tip apex distance was reviewed pre and post introduction of the daily metalwork review. 90 patients who had undergone DHS fixation were included in the study. There was a reduction in patients' with a TAD>25mm from 11/45(24) following the introduction of the metalwork review. Mean TAD reduced from 20.1mm to 17.1mm. Our unit advocates daily trauma metalwork review as an educational tool to promote peer learning and reflection, which can lead to improved surgical performance.

5 – Shoulder arthroplasty, the Royal Wolverhampton experience. M Sidhu, M Bickley, J Lynch, S Malik, T McBride

Introduction: Shoulder arthroplasty surgery is an increasingly common procedure, most commonly performed on females (72%), and for osteoarthritis (57)%. It was the aim of this project to determine the New Cross Hospital experience, by recording our findings about this procedure.

Method: Data was collected retrospectively to include patient demographics, comorbidities, peri-operative complications, and post-operative outcomes. This data was then analysed and compared with the NJR, and recent literature.

Results: In the 75 month period between 6/1/11 and 3/5/17, 208 arthroplasty cases were performed by 5 upper limb consultants, 55 were anatomic total shoulder replacements, 44 were shoulder resurfacing procedures, 102 reverse shoulder replacements, and 7 hemiarthroplasty. Mean drop in haemoglobin was 21 g/l, for which 23 patients required blood transfusion, whilst 11 patients suffered an acute kidney injury. 4 patients suffered wound issues, whilst a further



4 experienced axillary nerve neuropraxia. 92% of patients were discharged after a one night stay in hospital.

Conclusion: We found that in our practice, 11% of patients required blood transfusion and 5% required medical management for acute kidney injury. 2% of patients experienced axillary nerve neuropraxias which self resolved within 6 months.

6 – Patella dislocation: an online video analysis of the mechanism of injury. V Dewan, MSL Webb, D Prakash, A Malik, S Gella, C Kipps

Background: The mechanism of injury (Moi) for a patellar dislocation has not been fully established. To date it has been reliant upon the usage of biomechanical studies and patient interviews. The aim of this study was to use systematic video analysis (SVA) to determine the mechanism of injury of a patella dislocation.

Study Design & Methods: A search of 6 video sharing websites and search engines was conducted. Videos were reviewed by 3 surgeons who had been trained in SVA. Statistical analysis was conducted using SPSS for interobserver agreement.

Results: Initial search yielded 603 videos with 13 meeting the inclusion criteria. The most common mechanism was an unbalanced individual with a flexed hip sustaining a valgus force to their flexed knee with the tibia externally rotated.

Conclusions: This is the first attempt at video analysis of the Moi of a patella dislocation. The findings may help to develop, injury prevention programmes and rehabilitation protocols.

7 – Code Red Trauma Activation in a Major Trauma Centre: 2nd Cycle Audit. A Tulwin, A Beaven, L Fowler, R Moss

The Queen Elizabeth Hospital Birmingham (QEHB) Major Trauma Centre introduced a Code Red Protocol in September 2016 allowing the pre-hospital team to communicate the arrival of patients with suspicion of major haemorrhage. Data for the 1st cycle was collected prospectively from: 1 Sep 2016 – 1 Feb 2017 to include ALL code red activations since its introduction. Between the first and second cycles ED were authorised to active the Code Red trauma resuscitation rather than just the prehospital team. The 2nd cycle was prospectively performed



between 1 Feb 2017- 4 Oct 2017. The percentage of activations including consultant anaesthetic support and CTC support doubled between the two cycles. The Code Red activation process in QEHB can now to be said to be established as consultant team leader, consultant anaesthetist, and consultant trauma coordinator presence is at 90% of all activations.

8 – Improving Theatre Start Time A Quality Improvement Project.

J Rooker, O Uhiara, G Titley

Aim: To improve theatre start time for elective hand surgery.

Methods: We used the Model for Improvement ('Plan-Do-Study-Act') as the framework. Our key performance indicator was theatre start time at 0800hrs. We collected consecutive start time data for a hand surgeon's elective list. In 'Planning', we identified potential causes for delay and performed a stakeholder analysis. To 'Do' the project we identified achievable, cost effective changes including the golden patient. We 'Studied' the impact by monitoring theatre start time. Patients completed a satisfaction questionnaire.

Results: Baseline measurement for theatre start time over 6 months (23 lists) showed an average delay of 55 minutes. This was reduced to 11 minutes (14 lists), an 80% improvement. Patients rated their experience highly.

Conclusions: Introduction of the golden patient has resulted in a sustained improvement in theatre start time without additional cost. Our next 'Act' is to implement these changes in other theatres.

9 – Development of a Smart Elbow Prosthesis.

MM Khalid Khan, S Deshmukh, K Theivendran, L Leslie, S Junaid.

Migration of the prosthesis (aseptic loosening) is the major reason for the failure of total elbow arthroplasty followed by deep infection (septic loosening). Both of these complications are serious and, certainly for septic loosening, revision surgery is inevitable. The lasting impact of these complications include poor patient outcomes, delayed healing and further resources needed by the NHS including cost, theatre time and staff time. Earlier intervention is key to improving patient outcomes. Currently, the diagnostic method which are used to assess the performance and detect any complications in the elbow prosthesis involves clinical measurement and imaging techniques, which have low



sensitivity and specificity. Their accuracy is also low in differentiating between septic and aseptic loosening. Up till now no study has been found which uses embedded sensor technology in the elbow prostheses as they have been used in other implants i.e. hip, shoulder and knee. The aim of this research is to develop an embedded early stage detection system which will have the ability to unobtrusively measure real time implant performance, and has the capability of detecting loosening. These type of implants with embedded technology will have the potential to raise the specificity and sensitivity of the diagnostics of implant loosening.

10 – Glucosepane : A New Biomarker Of The Severity Of Osteoarthritis.
U Ahmed, C Lambert, C Legrand, A Anwar, K Rajpoot, S Pasha, R Davidson, I Clark, P Thornalley, N Rabbani, Y Henrotin

Background: Glycation, oxidation and nitration of proteins are reactions involved in accelerated aging of tissues. The products of these reactions are used as biomarkers of chronic pathologies such as diabetes or chronic inflammatory states.

Objectives: In this work, we studied by mass spectrometry the levels of amino acids and glycated, oxidized or nitrated proteins in culture media of chondrocytes cultivated in multi-layers and in the blood of guinea pigs or osteoarthritis patients.

Study Design & Methods: Sixty male, 3-week-old Dunkin-Hartley guinea pigs were used in this work. At 4-weeks-old and 8-week intervals until week 36, twelve animals were sacrificed and histological severity of knee osteoarthritis evaluated and cartilage rheological properties. Human patients with early and advanced osteoarthritis and healthy subjects were recruited. Human chondrocytes cultured in multilayers were treated for 10 days with interleukin (IL)-1 β . Amino acids and glycated, oxidized and nitrated proteins were analyzed in the serum of guinea pigs, osteoarthritis patients and in the culture medium conditioned by chondrocytes by stable isotopic dilution analysis liquid chromatography-tandem mass spectrometry using the Acquity UPLC system.

Results: Severity of osteoarthritis increased progressively in guinea pigs with age. Glycated, oxidized and nitrated amino acids were increased markedly at week 36. Glucosepane and dityrosine increased progressively from weeks 20 and 28, respectively. Glucosepane was positively correlated with the OA histological severity ($r = 0.58$, p



<0.0001) and the Young's modulus ($r = 0.52-0.56$, $p < 0.0001$). Oxidation free adducts were positively correlated with OA severity ($p < 0.0009-0.0029$) and hydroxyproline with cartilage thickness ($p < 0.0003-0.003$). In the clinical study, plasma glucosepane was increased 38% in patients with early osteoarthritis ($p < 0.05$) and 6-fold in patients with advanced osteoarthritis ($p < 0.001$) compared to healthy subjects. IL-1 β increased the release of glycated, oxidized and nitrated products from chondrocytes in vitro.

Conclusions The glycation, oxidation and nitration of proteins are reactions related to the severity of osteoarthritis. The products of these reactions are measurable in blood by mass spectrometry and could be biomarkers of osteoarthritis. More specifically, glucosepane is an advanced glycation product very strongly increased in the severe form of the disease. In conclusion, serum glucosepane is a potential biomarker for diagnosis and progression of osteoarthritis.

11 – Direct Anterior Approach without traction table for Total Hip Replacement - Single surgeon learning curve – S Vayalapa, U Ahmed, N Lofti, P Pynsent, C McBryde

Background - The direct anterior approach (DAA) remains controversial as a technique for total hip replacement (THR). This method may be associated with a faster recovery, reduced pain and fewer surgical complications however, it has been recognised as having a steep learning curve. Some studies have suggested a higher complication rate especially with femoral fracture and lateral cutaneous nerve injury during the first 50 cases performed. The purpose of this study is to evaluate the experience of a single surgeon in using this approach with a regular operating table

Methods - The first 84 THRs performed over 5 years were reviewed. Cementless stems were used in all cases. No specific traction table was used. There were 13 males and 71 females, with a mean age of 48 years (range 22-82). Post-operative outcomes such as complications, revisions, length of operation and stay, blood transfusions and pain score were documented. Radiographic data was also evaluated.

Results - There was 1 dislocation and 1 femoral nerve injury (temporary). Other complications included 3 cases of leg length discrepancy and 5



patients with short term anterior thigh pain. 1 revision was performed due to a loose and undersized femoral component. Placement of the implants was satisfactory based on the radiographic evidence. The length of operation and stay improved over time. The pain scores and transfusion rates were both low in all cases

Conclusion - This data demonstrates that direct anterior approach using a regular operating table is safe during the learning curve in this setting.

12 – Management of surgical site infection (SSI) at a UK orthopaedic tertiary centre – the Birmingham experience - U Ahmed, F Wong, S Malik, S Hussain, N Reeves, S Mimmack, A Pearson, D Dunlop

Background

Superficial surgical site recognised as a risk factor for deep joint infection in arthroplasty. Deep joint infections cause significant morbidity, adversely affecting a patient's quality of life and are expensive to manage. Since the advent of arthroplasty there has been a drive towards reducing infection rates and mitigating risk.

Objectives

To implement an evidence-based strategy of infection prevention and management and determine the change in the rate of surgical site infections

Study Design & Methods

We performed a retrospective review of patients who underwent hip or knee arthroplasty (primary or revision) at a single tertiary orthopaedic centre. Two cohorts of consecutive patients were assessed and compared: Cohort I had surgery between 2009 and 2010 (2 years), while the Cohort II had surgery between 2011-2013 (3 years). Our institution has adopted several strategies to improve our superficial surgical site infection rate including the development of a dedicated infection service, a patient hotline and adjustments to our surgical techniques (utilisation of 2% chlorhexadine for preparation of the skin, Aquacel™ dressings, and antimicrobial sutures). These service improvements were implemented from the second quarter of 2011 and completed by the third quarter of 2013.



Results

A review of infection rates before and after implementation of our strategy demonstrates an overall drop in superficial surgical site infection from 6.7% to 3.3%.

Conclusions

Surgical site infection is challenging and requires a multi-modal strategy to ensure the risk is minimised. Our strategy has demonstrated simple and effective measures taken can potentially reduce infection by 50%. The long-term impact of this strategy is yet to be determined.

13 – Survey of UK consultant hip surgeons opinions of surgeon specific data publication in orthopedic surgery - U Ahmed, S Malik, O Jarral, Y Shaik, Z Shah, W Hart, D Dunlop

Background

The publication of orthopaedic surgeon specific data (SSD) in the UK is presented with mortality as a key indicator. This data has potentially significant implications on service provision, innovation and training. We developed a questionnaire with the aim of exploring the opinions on the current format of data publications and related concerns.

Methods

Our questionnaire was adapted from one used in a survey of UK cardiothoracic surgeons. The questionnaire explored topics that had been defined previously in cardiothoracic literature. 395 members of the British Hip Society election were invited to complete a modified anonymised questionnaire online utilising questions with Likert Scale answers and free comments.

Results

- The return rate was 28% (110/395). Some of the responses include:
- 55% are against publication of SSD but 70% support Hospital specific data
 - 89% & 77% believe that published data will be misinterpreted by the public & colleagues respectively
 - 67% believe that publication of this data will have adverse affect on training
 - 63% feel that more surgeons will be risk averse
 - 58% believe morale is lower amongst surgeons



We also received extensive free text commentary provided by participants all expressing concern at the current publication of data, their structure and effect.

Discussion

There is very little literature that discusses public reporting of orthopaedic outcomes. Mortality is rare but there are other measures that would be more informative such as revision and infection rates. The long-term consequences from other studies have thrown up many concerns of deterioration in patient care.

Conclusion

From this study we conclude that the current reporting of data has made many practitioners risk-averse. There is a feeling that this data is not adequate in its current form and will be subject to manipulation with long-term affects on patient care, training, and morale.

