



Fifth Annual Meeting
Of The
Royal London Hospital Orthopaedic
& Trauma Society

29th June 2012

Kensington Roof Gardens
London

The BOA has accredited this meeting with 3 CPD points



The Royal London Hospital Orthopaedic and Trauma Society

Dear Colleagues,

Welcome to the Fifth Royal London Hospital Orthopaedic and Trauma Society Meeting at the Kensington Roof Gardens.

This day event is the annual culmination of Orthopaedic Surgical Training for the Royal London Training Rotation. This year the theme of the day is 'trauma'. We have the good fortune of having six keynote speakers all experts in their field. These include the national clinical director for trauma care, the Professor of Orthopaedic trauma surgery from Nottingham and a past Professor of military Surgery from the Royal College of Surgeons, England. There are also presentations of research projects by Trainees on the Orthopaedic Programme. The latter will be scored, and that judged to be best in originality, content and format will receive the Freeman Prize, to be presented at the end of the meeting.

As part of the formal Trainees Programme your support and participation both professionally and socially is greatly valued and I hope that you will find the meeting enjoyable.

Thomas Bucknill
Chairman

Royal London Hospital Orthopaedic and Trauma Society
chairman@rlhots.org

Alasdair Thomas
Treasurer
treasurer@rlhots.org

Sam Heaton
Membership Secretary
membership@rlhots.org

John Stammers
IT Secretary
webadmin@rlhots.org

Charlie Jowett
Academic Secretary
academic@rlhots.org

Jo Thomas
Academic Secretary
academic@rlhots.org

Ed Britton
Social Secretary
social@rlhots.org

Founding Committee Members:

Ali Noorani, Wai Yoon, Nic Wardle, Nima Heidari

The Fifth Annual Meeting of The Royal London Hospital Orthopaedic & Trauma Society has been generously sponsored by Synthes, DePuy, Stryker, Smith & Nephew, Biomet and Arthrex. Please take the time to visit the exhibition stands throughout the day.



RLHOTS Travelling Fellowship

Ortho Solutions* have generously provided sponsorship for a travelling fellowship. The award is for £1000, and is intended to provide support for a senior registrar on the Royal London Rotation who is due to embark upon a fellowship within the next year of their training. The award is given to aid expenses and is not intended to go towards covering the cost of courses.

Eligibility is based on strict criteria:

- 1) The applicant must be or have been on the Royal London Training Programme and hold a valid National Training Number or equivalent
- 2) The applicant must have passed the FRCS(Tr&Orth) and not taken up a consultant post at the time of submission deadline
- 3) The applicant must be able to demonstrate prior commitment to the Royal London Training Programme and RLHOTS

Applications should be submitted to the academic secretary, and must include a current Curriculum Vitae and a 500 word proposal outlining the fellowship and how the funds would be used.

Selection will be performed by a senior consultant committee, one of whom will be the current Chairman of the society.

The result of the selection process will be announced at the annual academic meeting.

Applications are open for 2013, and the closing date has been set as May 1st 2013.



*Ortho Solutions are an independent, UK-based company specialising in instrumentation and implants for Foot & Ankle surgery. They also supply a wide range of sterile trauma products. "We are proud to support the Royal London Hospital Orthopaedic and Trauma Society, believing that it is the medical device industry's responsibility to contribute towards high-quality training."

Freeman Prize

Each year the best registrar paper is awarded the Freeman Prize. The value of this is £250 towards an academic meeting or course of the winners choice.

Past Winners of The Freeman Prize

2008 - Mr P.J.H. Sloper

Bilateral Cementless Total Knee Replacement Following Previous Unilateral High Tibial Osteotomy: Functional Results at an Average of 8 Years

2009 - Mr N. Heidari

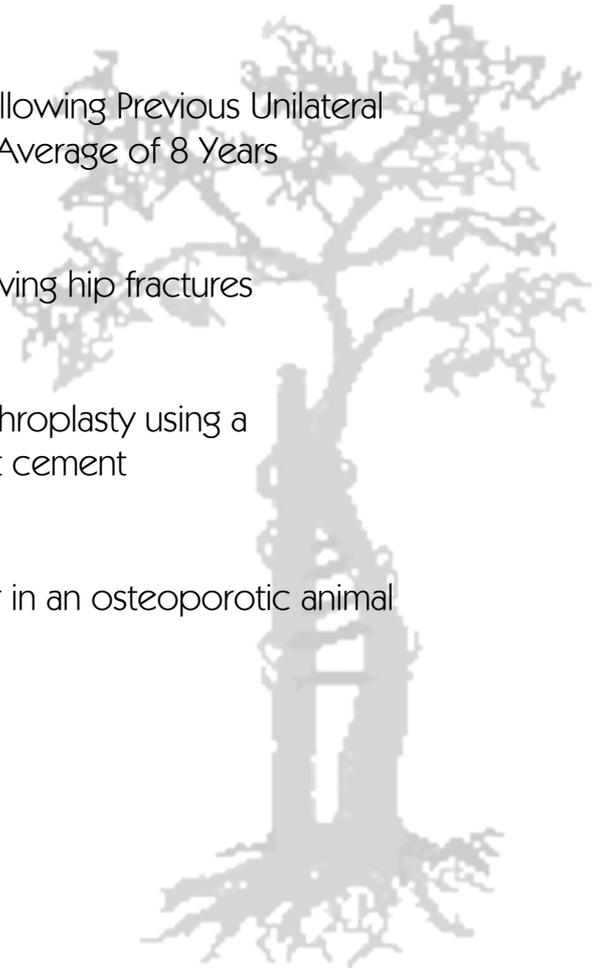
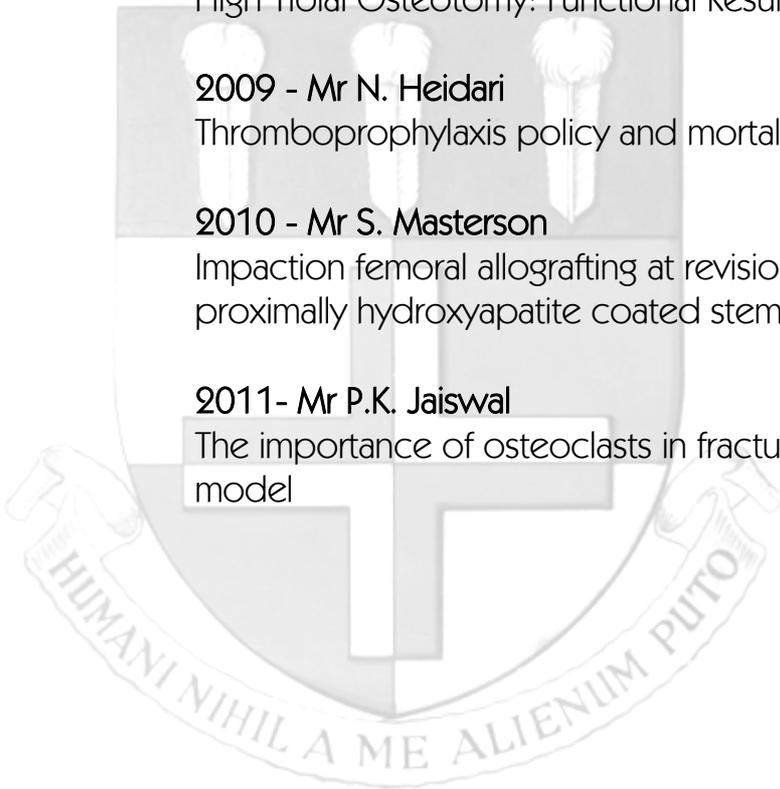
Thromboprophylaxis policy and mortality following hip fractures

2010 - Mr S. Masterson

Impaction femoral allografting at revision hip arthroplasty using a proximally hydroxyapatite coated stem without cement

2011- Mr P.K. Jaiswal

The importance of osteoclasts in fracture repair in an osteoporotic animal model



The Fifth Annual Meeting of The Royal London Hospital Orthopaedic and Trauma Society

Kensington Roof Gardens

Friday 29th June 2012



8.30 – 9.00	Registration and coffee
9.00 – 9.10	Mr T M Bucknill Welcome address from the chairman
9.10 – 9.40	Mr P Bates 'Making Sense of Pelvic Fractures'
9.40 – 10.15	Registrar Paper Session 1
10.15 – 10.45	Professor K Willett 'Changing Major Trauma Care in England – The Journey has Started'
10.45 – 11.10	Coffee
11.10 – 11.55	Registrar Paper Session 2
11.55 – 12.30	Mr A Sakellariou 'Ankle Fractures: Not for the Inexperienced'
12.30 – 13.10	Lunch and review of posters
13.10 – 14.00	Synthes Resident Program
14.00 – 14.40	Professor C Moran 'Current Concepts in the management of the polytrauma patient'
14.40 – 15.00	London SpR Fellowship Reports Mr A Noorani: Orthosolutions travelling fellowship Mr N Wardle: From Bournemouth to Berlin
15.00 – 15.30	Coffee
15.30 – 16.00	Professor J Ryan 'Trauma Care in Austerity - From the Falklands to Afghanistan'
16.00 – 16.40	Miss S Ang 'The Journey of a Lifetime'
16.40 – 16.50	Presentations of the Freeman Prize, the poster prize, The RLHOTS travelling fellowship and The Royal London Rotation trainer of the year

Invited Keynote Speakers

Mr Pete Bates

Consultant Orthopaedic Surgeon
Royal London Hospital, London

Professor Keith Willett

Consultant Orthopaedic Surgeon
National Clinical Director for trauma care
Professor of Orthopaedic Surgery, University of Oxford

Mr Anthony Sakellariou

Consultant Orthopaedic Surgeon
Frimley Park Hospital, Surrey

Professor Chris Moran

Consultant Orthopaedic Surgeon
Professor of Orthopaedic Trauma, University Hospital, Nottingham

Professor Jim Ryan

Honorary Consultant in Accident and Emergency Medicine
Emeritus Professor of Conflict at the University College London &
St Georges' Hospital, University of London

Miss Swee Ang

Consultant Orthopaedic Surgeon
Royal London Hospital, London



Registrar Podium Presentations:

Session 1 9.40-10.15

The Liverpool Proximal Replacement: Short-term results of a short metaphyseal loading femoral component

Thomas A, Lidder S, Masterson S, Crone D, Scott G

Early experiences with a pelvic reduction frame to provide intra-operative femoral head positioning during fixation of difficult acetabular fractures

Britton E, Stammers J, Arghandasi S, Culpan P, Bates P

Medial patellofemoral ligament reconstruction with a divergent patellar two-tunnel technique in isolation and in combination with trochleoplasty for patellar instability

Alam M, Panni A, Cerciello S, Vasso M, Maffulli N

Session 2 11.10-11.55

A Review of lower limb fractures treated with Nancy Nails in Children

Gillani S, Jowett C, Barry M

Simulated Hip Arthroscopy Skills: A Randomised Trial of learning curves in the lateral and supine positions

Khan T, Thomas C, Pollard B, Price A, Gill H, Glyn-Jones S, Rees J

The Role of Platelets in Achilles Tendon Treatments – A Systematic Review and Meta-Analysis of *in vivo* Trials.

Sadoghi P, Rosso C, Valderrabano V, Leithner A, Vavken P

Clinical experience of minimally invasive treatment of pelvic ring injuries using an internal anterior fixator

Stammers J, Britton EMG, Arghandasi S, Bates P, Culpan P

The Liverpool Proximal Replacement: Short-term results of a short metaphyseal loading femoral component.

Thomas A, Lidder S, Masterson S, Crone D, Scott G
The Royal London Hospital, London, U.K.

Introduction

The use of a short metaphyseal loading femoral implant allows preservation of bone and achieves proximal load transfer.

Methods

We report the outcome of 61 hydroxyapatite-coated uncemented short femoral components inserted into 50 patients between December 2006 and July 2011. The pre-operative diagnoses are shown in table 1. The mean age of the patient was 51 years (21 to 78), 34 were right sided, 27 left and 11 bilateral. The mean follow up was 2.1 years (6 months to 5 years). The mean Harris Hip Score improved from 57.63 (23 – 86.02) pre-operatively to 91.98 (52.86 – 100) at final follow-up. The mean distal migration was 0.93 mm (SD +/- 1.2 mm) at six months and 1.05 mm (SD +/- 1.1 mm) at two years.

Post operatively one patient had a sciatic nerve palsy which resolved and one developed a femoral vein thrombosis. One hip was revised due to adverse reaction to metal debris (ARMD). Three patients were lost to follow-up at final review.

Results

The results are comparable to other series [1] and shortening of the implant does not decrease implant stability or compromise clinical results [2].

Diagnosis	Number of patients
Osteoarthritis	27
Avascular necrosis	17
Post Traumatic	5
Other	12

Table 1: Pre-operative diagnosis of patients.

References:

1. Santori FS, Santori N. Mid-term results of a custom-made short proximal loading femoral component. *J Bone Joint Surg Br.* 2010;92-B:1231-7.
2. Skinner JA, Kroon PO, Todo S, Scott G. A femoral component with proximal HA coating. An analysis of survival and fixation at up to ten years. *J Bone Joint Surg Br.* 2003;85-B:366-70.

Early experiences with a pelvic reduction frame to provide intra-operative femoral head positioning during fixation of difficult acetabular fractures

Britton E, Stammers J, Arghandasi S, Culpan P, Bates P.

The Royal London Hospital Pelvic Unit, The Royal London Hospital, London, UK

Introduction

Certain acetabular fractures involve impaction of the weight-bearing dome and medialisation of the femoral head. Intra-operative fracture reduction is made easier by traction on the limb, ideally in line with the femoral neck (lateral traction). However, holding this lateral traction throughout surgery is very difficult for a tiring assistant.

Methods

We detail a previously undescribed technique of providing intra-operative lateral femoral head traction via a pelvic reduction frame, to aid fixation of difficult acetabular fractures. The first 11 consecutive cases are reviewed (Group 1) and compared with a retrospective control (Group 2, n=22) of case-matched patients, treated prior to introducing the technique. The post-operative X-rays and CT scans were assessed to identify quality of fracture reduction according to the criteria of Tornetta and Matta. Operative time, blood loss and early complication rates were also compared.

Results

All cases in both groups were acute injuries with medial and/or superior migration of the femoral head. The majority were either associated both column and anterior column posterior hemi-transverse. There was no statistical difference between the groups in age, time to surgery, BMI or ASA grade.

Fracture reduction was assessed as excellent in seven, good in three and poor in one. This was not significantly different from the control group ($p=0.3$). The mean operative time was 193 minutes in Group 1 and 255 minutes in Group 2 ($p = 0.04$). There was no difference between the groups for blood loss or complication rates.

Conclusions

For certain difficult acetabular fractures, the results of this new technique were at least equivalent to using manual traction. The technique may reduce surgical time.

Medial patellofemoral ligament reconstruction with a divergent patellar two-tunnel technique in isolation and in combination with trochleoplasty for patellar instability

Alam M¹, Panni A², Cerciello S², Vasso M², Maffulli N³

¹Biomechanics Section, Depts. of Mechanical Engineering & Bioengineering, Imperial College, UK

²Science of Health, Orthopaedic Department, Molise University, Campobasso, Italy

³Centre for Sports & Exercise Medicine, Queen Mary University of London, Barts & The London School of Medicine and Dentistry, UK

Introduction

This study reports the prospective outcome of isolated medial patellofemoral ligament (MPFL) reconstruction for patients with patellar instability due to isolated MPFL rupture and the outcome of combined trochleoplasty and MPFL reconstruction in patients with combined MPFL deficiency and dysplastic femoral trochlea.

Methods

A diverging 2 bony tunnel MPFL reconstruction technique was developed based on anatomical dissections which showed that the MPFL diverges from its narrow femoral insertion to an insertion occupying approximately half of the proximal medial patella. The diverging tunnels were used to replicate the distinct inferior-straight and superior-oblique bands and the broad patellar attachment. Forty eight patients (51 knees) with at least 3 episodes of lateral patellar dislocation and having been treated with a 6 months rehabilitation protocol were included in the isolated MPFL deficiency arm of the study. Reconstruction was with a semitendinosus tendon using a divergent two-tunnel technique. Eighteen consecutive patients (20 knees) with trochlear dysplasia and evidence of MPFL deficiency flexion were included in the combined trochleoplasty and MPFL reconstruction arm of the study. Outcome for both arms was evaluated with the Kujala, Larsen, Tegner and Fulkerson outcome scores. The type of trochlear dysplasia, sulcus angle as well as tibial tuberosity trochlear groove distance and patellar tilt were analysed. Patient satisfaction with range of motion, pain and sporting activities was also assessed.

Results

Isolated MPFL reconstruction group:

Three patients were lost at the final follow-up, giving a follow-up rate of 94%. Mean follow-up was 59 months (range, 52-65 months). There were no patella dislocations post-operatively. The mean Kujala score improved significantly ($P < 0.01$) from 56.7 (± 17.7 (2x Standard Deviation)) preoperatively to 86.8 (± 14.4) post-operatively. The mean Larsen, Fulkerson and Tegner scores all improved significantly. There was one patella fracture 4 months after the index operation requiring operative fixation.

MPFL reconstruction and trochleoplasty group:

At a mean of 26 months (24-29 months), 17 out of 18 patients were subjectively satisfied with the outcome of the procedure, showing absence of positive apprehension or redislocation. Patients reported significant ($P < 0.001$) reduction of VAS (6.1 to 2.8 points). The mean Larsen, Fulkerson and Tegner scores all improved significantly. No knees showed evidence of PFJ degeneration.

Conclusions

Our results of isolated modified MPFL reconstructions are encouraging, with minimal risks of redislocation and an overall patient satisfaction rate of over 80%. These early and medium term results are comparable to other MPFL reconstruction techniques reported in the literature. Combined treatment of trochleoplasty with MPFL reconstruction also displayed encouraging results for pain and function. Significant clinical and radiological improvements were seen. This combined treatment appears to be a reliable option as a primary procedure for the treatment of patellar instability due to combined trochlea dysplasia and MPFL deficiency.

A Review of Lower Limb Fractures Treated with Nancy Nails in Children

Gillani S, Jowett C, Barry M

The Royal London Hospital, London, UK.

Purpose

To review the range of movement at the knee joint after treatment with nancy nails in lower limb fractures in children.

Methods

A retrospective review of paediatric patients treated with nancy nails for lower limb long bone fractures between 1998-2011. Results were collected from patients medical documents and radiographs.

Results

In total 53 patients (36 Male, 17 Female, Mean age: 7.8 years) with 57 fractures were treated with nancy nails over a period of 13 years. 45 femoral fractures (42 patients) and 12 tibial fractures (11 patients) were treated with nancy nails. Four patients had two fractures requiring nancy nails. There were sixteen polytrauma patients and three patients had metabolic bone disease.

52 were closed fractures and 5 were open fractures. Two patients had an initial plaster converted to nails due to loss of reduction, four patients had pathological fractures and one patient had an external fixator converted to nancy nails.

39 fractures had closed nailing and 18 required an open reduction. Mean diameter of nail was 3.5mm and length was cut accordingly.

Median length of stay was 5 days and the mean duration of nails before removal was 235 days. Out of 53 patients, 30 were followed up at Royal London Hospital while others were followed up at their local hospitals. Average time for first follow up was 20 weeks, 20 out of 30 patients had full ROM at knee by that time, 5 patients had on average 50% reduced flexion at the knee compared to the unaffected side but gained full ROM on second follow up (average 26 weeks). 5 patients never gained full ROM and had on average 25% loss of flexion at knee as compared to the non fractured side. Complications included 4 wound infections treated successfully with antibiotics, 3 delayed unions, 5 patients with reduced ROM at knee, 2 malunions, 6 long nails requiring early removal, one nail failure requiring removal, one failure to remove nail and one leg shortening requiring osteotomy and frame. One patient died due to other co-morbidities.

Conclusions

All patients that were followed up achieved union following nancy nail treatment for their lower limb long bone fractures. Patients treated with nancy nails for lower limb fractures preserve good range of movement at knee joint.

Simulated Hip Arthroscopy Skills: A Randomised Control Trial of Learning Curves in the lateral and supine positions

Khan T, Pollard T, Price AJ, Gill HS, Glyn-Jones S, Rees JL

*Nuffield Department of Orthopaedics, Rheumatology & Musculoskeletal Sciences
University of Oxford, UK*

Introduction

The prevalence of hip arthroscopy has increased. It can be performed in the lateral or supine position, but despite advances in equipment, remains technically demanding and generally only performed by subspecialist surgeons. We aimed to objectively quantify and compare learning curves between two groups of orthopaedic trainees randomised to learn simulated hip arthroscopy in either lateral or supine positions, and to further compare differences in learning curves between senior and junior trainees.

Methods and Materials

A hip arthroscopy simulator with anterolateral and anterior portals, 70° arthroscope, and fixed distraction was used. Rotation of the simulator by 90° enabled supine or lateral arthroscopy. 20 orthopaedic registrars with minimal hip arthroscopy experience were randomized into lateral and supine groups, and asked to perform a diagnostic arthroscopy of the central compartment on 12 occasions. Each episode involved a change in portal and repetition of the diagnostic round. A validated motion analysis system objectively measured surgical performance by recording time taken, total path-length of hands, and number of hand movements.

Results

Both groups demonstrated learning with objective improvement in all parameters ($p < 0.001$). Initially, the lateral group were significantly slower and more variable in their performance during the second diagnostic round after portal exchange ($p = 0.006$). They achieved parity however with the supine group in all parameters by 9 episodes. During the first three episodes, the junior trainees performed significantly worse for the first diagnostic round ($p = 0.005$), but not the second diagnostic round ($p = 0.200$). They then rapidly achieved parity with the senior trainees and performed at a similar level by the end of the study period.

Conclusions

Trainees with minimal experience of hip arthroscopy progressively learn and objectively improve their performance on a hip simulator. Orientation after portal exchange is difficult for all but particularly those learning in the lateral position. Trainees are likely to benefit from simulator training in order to learn orientation and basic competence prior to performing hip arthroscopy on patients.

Level of Evidence: Level I, RCT.

The Role of Platelets in Achilles Tendon Treatments – A Systematic Review and Meta-Analysis of *in vivo* Trials.

Sadoghi P¹, Rosso C², Valderrabano V², Leithner A¹, Vavken P³.

(1) Department of Orthopaedic Surgery, Medical University Graz, Graz, Austria

(2) Department of Orthopaedic Surgery, University Hospital Basel, Basel, Switzerland

(3) Sports Medicine Research Laboratory, Department of Orthopedic Surgery, Children's Hospital Boston, Harvard Medical School, Boston, MA, USA

Introduction

To systematically review the current *in-vivo* evidence for the use of platelet-concentrates (PRP) in the treatment of Achilles tendinopathy and Achilles tendon ruptures.

Study Design

Meta-analysis and systematic review

Methods and Materials:

A systematic search of PubMed, CINAHL, EMBASE, CCTR and CDSR was performed for animal and human studies on the effect of platelet-concentrates in the treatment of Achilles tendinopathy and ruptures using the terms "Achilles tendon and platelet".

Results

The systematic search revealed a total of 149 papers. After excluding duplicates and cases of overlapping data, studies not focusing on *in vivo* evidence in terms of treatment or outcome, studies without any intervention, studies with unacceptable high attrition, one Chinese and one Swedish study, the remaining 14 manuscripts were included.

Conclusions

The current evidence provides strong evidence in support of a statistically significant effect of platelet concentrates in the treatment of Achilles tendon ruptures *in vivo*, consistent with a medium to large sized effect. This effect is most likely attributable to fastened and enhanced scar tissue maturation. There was no evidence for a beneficial effect of platelets in Achilles tendinopathy.

Clinical experience of minimally invasive treatment of pelvic ring injuries using an internal anterior fixator

Stammers J, Britton E, Arghandasi S, Bates P, Culpan P

The Royal London Pelvic Unit, The Royal London Hospital, London, UK

Introduction

Anterior internal fixators have been introduced as a minimally invasive, relatively simple to insert, biomechanically stable solution to stabilise pelvic ring injuries. The Infix uses any pedicle screw spinal system inserted into supra-acetabular bone using fluoroscopic guidance. A pre-contoured spinal bar joins the pedicle screws subcutaneously and using standard spinal compressors and distractors definitive reduction achieved.

Methods

We present our early experiences on the first 15 consecutive cases. Data collection included mechanism, neurovascular status, additional fixation, duration of operation and blood loss. These patients were prospectively followed up with a minimum 6 month follow-up recording complications, clinical and radiological outcome.

Results

Average age was 36 (29-72) and mechanism of injury was fall in eight, road traffic accident in six and industrial crush injury in one. Fracture classification using the Infix were LC2 (5), LC3(7), APC2(2) and one combined LC1 and transverse acetabular. Average duration of surgery was 75 minutes (50-120 minutes) and average blood loss 115 mls (50-250mls). Complications due to the infix were lateral femoral cutaneous nerve palsy(4), partially recovering in two and overlying wound breakdown with superficial infection in one. Two patients had a pulmonary embolus and were successfully treated with anticoagulation. Radiological reduction was excellent in seven, good in five and fair in three. Following radiological union eight patients had day-case removal of their infix, five for metal prominence and three for infection. Following removal there was no loss of reduction. At minimum six month follow-up average visual analogue pain score was 2 (1-5), Merle D'Aubigne score 12 (range 7-17) and SF-36 was 74 (range 48-103).

Conclusions

We have demonstrated effective use of the Infix system in selected patients. Metal prominence is a particular problem in thin patients and should be consented accordingly. We report a high incidence of lateral cutaneous nerve injury and advocate insertion under direct vision after blunt dissection. The early complication profile is favourable to complications of external fixators and in multiply injured patients early fixation with this device has reduced operative time and blood loss.

Poster Presentations

The true insertion points of the knee collateral ligaments – an MRI study on paediatric patients during growth

Tschauner S, Kraus T, Sorantin E, Schmidt P, Fischerauer E, Singer G, Weinberg A

Medial Patellofemoral Ligament Reconstruction using a synthetic LARS ligament

Oragui E, Ratnakumar K

Distal Radius Triplanar Fracture

Parkar A, Marya S, Auplish S

Management of Sciatic Nerve Injuries Following Total Hip Arthroplasty

Singh J, Jeyaseelan L, Sicuri M, Fox M, Sinisi M

Serum metal ion concentrations in paediatric patients following total knee arthroplasty using megaprotheses: is there a matter of concern?

Friesenbichler J, Maurer-Ert W, Sadoghi P, Szkandera J, Weger C, Pirker-Frühauf U, Leithner A

Learning and Retaining Complex Arthroscopic Knee Skills

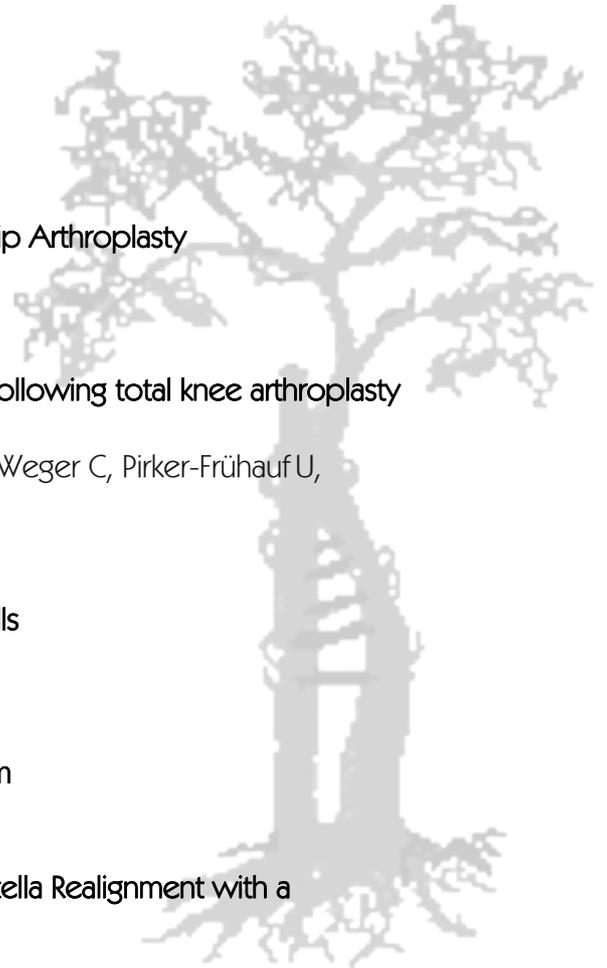
Khan T, Alvand A, Al-Ali S, HS Gill HS, Price AJ, Rees JL

The Undescended Scapula: Sprengel and the Cleithrum

Dhir R, Lambert SM

Long Term Outcome in Paediatric Patients following Patella Realignment with a modified Grammont Technique

Lidder S, Kraus T, Schneider F, Rippel K, Linhart W



The true insertion points of the knee collateral ligaments – an MRI study on paediatric patients during growth

Tschauner S¹, Kraus T¹, Sorantin E², Schmidt P³, Fischerauer E⁴, Singer G⁴, Weinberg AM⁴

¹ Department of Paediatric Orthopaedics, Medical University of Graz, Austria

² Department of Paediatric Radiology, Medical University of Graz, Austria

³ Department of Radiology, LKH Stolzalpe, Austria

⁴ Department of Paediatric and Adolescent Surgery, Medical University of Graz, Austria

Introduction

During growth different femoral insertion points for both the medial collateral ligament (MCL) and the lateral collateral ligament (LCL) have been reported. An insertion proximally to the growth plate as well as distally to the growth plate has been described. However, knowledge about the exact insertions is mandatory for anatomically correct surgery in case of reconstruction. This study assesses the position of the insertion of the collateral ligaments of the knee in the skeletally immature.

Methods

MRIs of 150 knee joints (m = 75, f = 75, age = 2-18 years) were retrospectively analyzed assessing the distances of the proximal insertions of the MCL and LCL in relation to the distal femoral growth plate. Additionally the length of the LCL was measured. Correlations to age and sex were calculated using Pearson's correlation coefficient as well as uni- and multi-variant analysis.

Results

The collateral ligaments of the knees in Paediatric patients are located at the epiphysis. The distance to the growth plate of both collateral ligaments correlated positively with patients' age (MCL ($r = 0.872$) and LCL ($r = 0.788$)). Additionally, the length of the LCL correlated positively with age ($r = 0.803$). In relation to sex there were significant differences for each parameter ($p < 0.001$, $p = 0.002$ und $p = 0.018$). Moreover, the distance of the MCL and the LCL insertions to the epiphyseal plate increased linearly per year: 0.045 cm (MCL) and 0.028 cm (LCL) in boys; 0.036 cm (MCL) and 0.028 cm (LCL) in girls.

Conclusion

During growth the femoral insertions of the MCL and the LCL are located on the epiphyseal side of the growth plate. The distance from the growth plate to the insertion points of the ligaments increases linearly during growth.

Medial Patellofemoral Ligament Reconstruction using a synthetic LARS ligament

Oragui E, Ratnakumar K

Queen's Hospital, Romford, Essex, UK

Introduction

The medial patella-femoral ligament (MPFL) is the primary restraint to lateral displacement of the patella and insufficiency of the MPFL is considered to be the pathognomonic lesion in recurrent patella dislocations. Surgical treatment includes primary repair, ligament imbrication or reconstruction using autologous or synthetic grafts. Common problems include donor site morbidity, knee pain and patella instability. We describe the successful first time use of the synthetic Ligament advancement Reinforcement System (LARS Ligament – J. K. Ort homedic, Dollard-des-Ormeaux, Canada) for reconstruction of the MPFL using a previously described double tunnel technique through the patella

Methods and Materials

A 13 year old girl with a background of generalized hyperlaxity presented with recurrent dislocation of the right patella. Radiographs of the knee demonstrated trochlea hypoplasia and chondromalacia of the patella. The measured Q angle was 20 degrees and the Insall:Salvati ratio measured 1.55. MRI showed attenuated medial structures and a rupture of the MPFL (figure 1).

An MPFL reconstruction was carried out using a LARS ligament and a double tunnel technique similar to that described by Carmont and Maffuli. The patella is approached through a 4cm midline incision and the pre-patella fascia elevated. Two 2.5mm drill holes are made from medial to lateral in the upper third of the patella. A tumour LARS ligament is trimmed to a strip with a diameter of 3mm and prepared with Ethibond locking sutures at both ends and passed in loop fashion through the drill holes. A plane is developed beneath the second layer of the knee and the graft passed through this layer. A 2cm incision is made over the medial epicondyle and a Beath pin passed along the trans-epicondylar axis. A medial blind tunnel 3 cm long is drilled over the guide using a 5 mm drill bit. The locking sutures are passed through the femoral tunnel and the patella relocated over the femoral trochlea. The knee is cycled several times to determine the isometric point of the graft. The graft is fixed with an 8 mm screw..

Results

At 24 months post op the patient was pain free and had not experienced any further episode of instability. Clinically Patella tracking was normal and the Q angle measured 17. She had restoration of her normal activities with full range of motion and was able to participate in sports.

Conclusion

We have presented our experience with the use of the LARS ligament for reconstruction of the MPFL. Biological grafts have produced good results but are associated with harvesting and donor site morbidity. The use of synthetic grafts has been generally pleasing and the ideal mechanical properties of the LARS ligament and the variety of grafts available may make it a useful option for MPFL reconstruction in the setting of recurrent patellar instability.

Distal Radius Triplanar Fracture

Parkar A, Marya S, Auplish S

Queen's Hospital, Romford, Essex, UK

Introduction

A triplanar fracture is so named because of the three planes traversed by the fracture line. These are physal fractures that result from injury during the final phase of maturation and cessation of growth. This fracture pattern typically described involves the distal Tibia. We present a rare case of a triplanar fracture involving the distal Radius.

Case Report

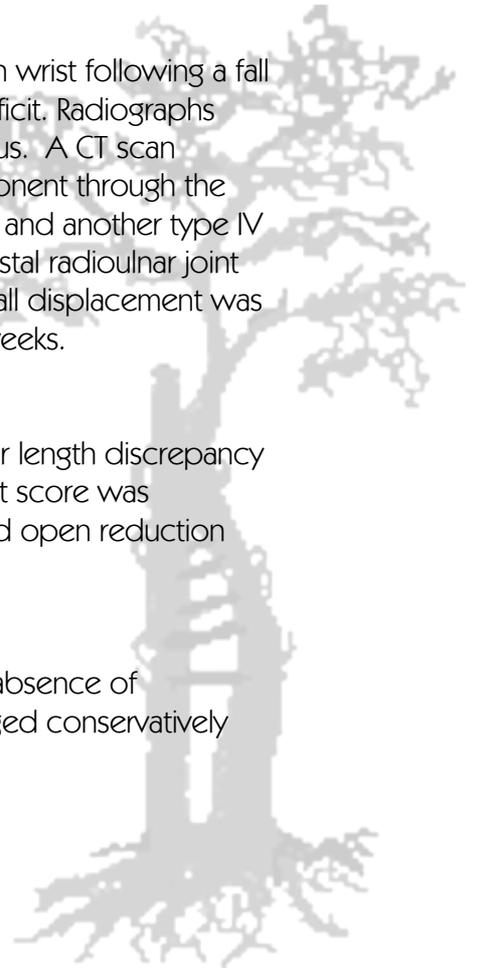
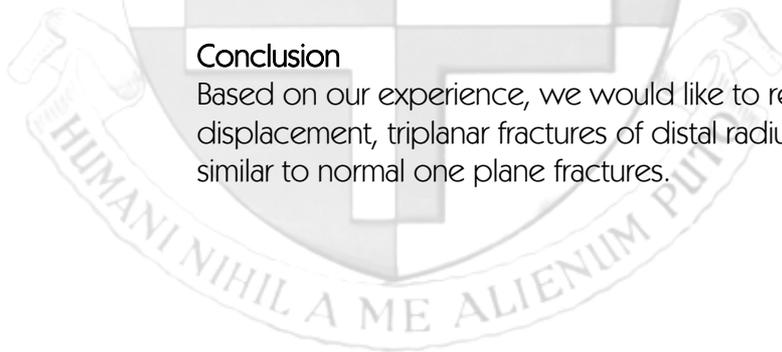
A 15 year old boy presented with an acutely painful and swollen wrist following a fall from push bike. The injury was closed, with no neurovascular deficit. Radiographs showed an unusual fracture pattern at the intraarticular distal radius. A CT scan confirmed a fracture in three planes; a Salter Harris type III component through the radial styloid, type IV component through dorsal scaphoid fossa and another type IV fracture through the lunate fossa to the dorsal metaphysis. The distal radioulnar joint and the radiocarpal joints were also involved, however the overall displacement was less than two mm. The injury was treated in a plaster cast for 4 weeks.

Result

Eight months since initial injury, there was no deformity, radioulnar length discrepancy or growth plate arrest. His DASH score was zero, and Mayo wrist score was Excellent, suggesting no disability. Several authors have suggested open reduction and internal fixation for Salter Harris type IV fractures.

Conclusion

Based on our experience, we would like to recommend that in absence of displacement, triplanar fractures of distal radius should be managed conservatively similar to normal one plane fractures.



Management of Sciatic Nerve Injuries Following Total Hip Arthroplasty

Singh J, Jeyaseelan L, Sicuri M, Fox M, Sinisi M

Peripheral Nerve Injury Unit, Royal National Orthopaedic Hospital, Stanmore, UK

Introduction

Sciatic nerve injury remains a significant and devastating complication of total hip arthroplasty. Incidence as quoted in the literature ranges from 0.08% in primary joint replacement to 7.5% in revision arthroplasty.

While as urgent exploration is recommended for nerve palsies associated with pain, management of sciatic nerve palsy with little or no pain is still controversial. In light of this, many patients with persistent palsies are often not referred to our specialist centre until after 6 months post-injury.

The aim of this study was to review the outcome of surgical intervention in patients presenting with sciatic nerve palsy more than 6 months after total hip arthroplasty.

Methods

This retrospective cohort study identified 35 patients, who underwent exploration and neurolysis of the affected sciatic nerve. All patients had documented follow-up at 3, 6, 12 and 18 months. Patients were scored for sensory and motor function in the tibia and common peroneal nerve divisions, pre and post-operatively. The scoring system devised by Kline et al (1995) was used. Pre-operative electrophysiology was also reviewed.

Results

Analysis found a statistically significant functional recovery following neurolysis of the sciatic nerve ($p < 0.01$). A statistically significant relationship was also found between time to neurolysis and recovery of tibial nerve function ($p = 0.02$), such that greater delay to nerve surgery was associated with poorer recovery. There was no significant relationship between time to neurolysis and recovery of common peroneal nerve function ($p = 0.28$).

Conclusion

We found that neurolysis of the sciatic nerve, six months or more post injury is associated with functional recovery. We feel that without surgical exploration this clinical improvement would not have occurred. Therefore, we believe that neurolysis plays a vital role at any stage of sciatic nerve injury. However, early presentation to a specialist unit is associated with better outcomes.

Serum metal ion concentrations in paediatric patients following total knee arthroplasty using megaprotheses: is there a matter of concern?

Friesenbichler J¹, Maurer-Ertl W¹, Sadoghi P¹, Szkandera J², Weger C¹, Pirker-Frühauf U¹, Leithner A¹.

¹Department of Orthopaedic Surgery, Medical University of Graz, Austria

²Department of Oncology, University Clinic of Internal Medicine, Medical University of Graz, Austria

Purpose

The effects of long term systemic metal ion exposure in patients with implants made of common prosthetic alloys are still a matter of concern. The aim of the study was to determine the measurement values of cobalt (Co), chromium (Cr), and molybdenum (Mo) in the serum of paediatric patients following reconstruction of the knee using fixed hinge megaprotheses.

Methods

Blood was taken from 10 paediatric patients (mean age at operation: 14 years (range, 6 to 23) treated with fixed hinge megaprotheses used for reconstruction following wide tumour resection. Chemical analysis was carried out using electrothermal graphite furnace atomic absorption spectrometry. These metal ion levels were compared with pre-operative controls as well as metal ion levels following MoM THA and rotating hinge total knee arthroplasty.

Results

After an average follow-up of 109 months (range, 67 to 163) the mean results for Co were 0,51 µg/dl (range, 0,04-1,28 µg/dl), for Cr 0,420 µg/dl (range, 0,148-0,891 µg/dl) and for Mo 0,06 µg/dl (range, 0,01-0,09 µg/dl). The values for Co (normal: 0-0,05 µg/dl) and Cr (normal: 0-0,190 µg/dl) were tenfold and twofold, respectively, increased, while Mo (normal: 0-,10 µg/dl) was within the limits. The serum concentrations of Co and Cr were significantly higher compared to the rotating hinge group with the standard device (Co: $p < 0.001$; Cr: $p < 0.001$) and the preoperative controls (Co: $p < 0.001$; Cr: $p < 0.001$) while the serum metal ion levels of patients following MoM THA were higher at one and two year follow-up. The serum concentrations of Co were higher in the rotating hinge megaprosthesis group while the Cr values were lower compared to the fixed hinge group.

Conclusion

Determining the concentrations of metal ions following fixed hinge total knee arthroplasty revealed significant increments for Co and Cr. The authors believe there might be an additional metal ion release from the surface of the prosthesis although the hinged metal-on-metal articulation. Nevertheless, further long-term studies are required to determine adverse effects of Co, Cr and Mo following total knee arthroplasty using megaprotheses.

Learning and Retaining Complex Arthroscopic Knee Skills

Khan T, Alvand A, Al-Ali S, Gill HS, Price AJ, Rees JL

*Nuffield Department of Orthopaedics, Rheumatology & Musculoskeletal Sciences
University of Oxford, UK*

Introduction

Restrictions on working hours and the consequent reduction in training opportunities have led to the use of simulation training in orthopaedic residency programs. Previous studies investigating the retention of surgical skills have suggested that objective loss of technical performance occurs after a 6-month period without practice. The aims of this study were to objectively demonstrate the learning curve for arthroscopic meniscal repair using a motion analysis tracking system and to determine the impact of task repetition on the retention of this skill.

Methods and Materials

19 orthopaedic residents with experience of routine knee arthroscopy, but not arthroscopic meniscal repair were recruited to a randomized study. During the 'Initial Learning Phase', all subjects performed 12 meniscal repairs on a knee simulator over a 3-week period. A validated motion analysis tracking system was used to objectively record their learning and performance using the outcomes of 'time taken to complete task', 'total distance travelled' and 'total number of hand movements'.

The subjects were then randomized into 3 groups: Group A continued to perform one meniscal repair episode each month. Group B performed one meniscal repair episode at 3 months and group C performed no repairs during this 'Interim Phase'. All 3 groups then returned at the 6-month point and carried out a further 12 meniscal repairs over 3 weeks as in the initial learning period ('Final Assessment Phase').

Results

All subjects demonstrated significant objective improvement over the initial 12 episodes for all three motion analysis parameters ($p < 0.0001$, Wilcoxon Signed Rank test) demonstrating a clear learning curve. Although some residents had reached a learning plateau by 12 episodes, others continued to make further small improvements for up to another 6 episodes. Importantly, Group C did not display any loss of skill despite a 6-month break in task repetition ($p > 0.05$, Wilcoxon Signed Rank test).

Conclusion

This study further highlights the useful role of surgical simulation for resident training programs, especially for rarely performed procedures. In contrast to some previous studies, this study does not show any loss of surgical skill after a 6-month period of absence. These findings suggest the presence of task-specific or surgeon-dependent factors that affect the retention of arthroscopic skills. We suggest that the use of generic guidelines on minimum task frequency for surgeons to maintain optimal performance at arthroscopic tasks may not always be appropriate.

The Undescended Scapula: Sprengel and the Cleithrum

Dhir R, Lambert SM

The Upper Limb Unit, Royal National Orthopaedic Hospital, Stanmore, UK

Introduction

Sprengel's deformity is a rare congenital anomaly of the shoulder girdle characterised by malposition (elevation and medial rotation) of the scapula, causing cosmetic disfigurement and limitation of shoulder movement.

It is thought to result from abnormal retention of the foetal scapula position and commonly associated with other congenital anomalies including scoliosis, spina bifida, rib anomalies and Klippel-Feil syndrome.

Clinical features

Clinically, there is an abnormally high scapula position, and often an omovertebral connection is present, connecting the scapula to the cervical spine.

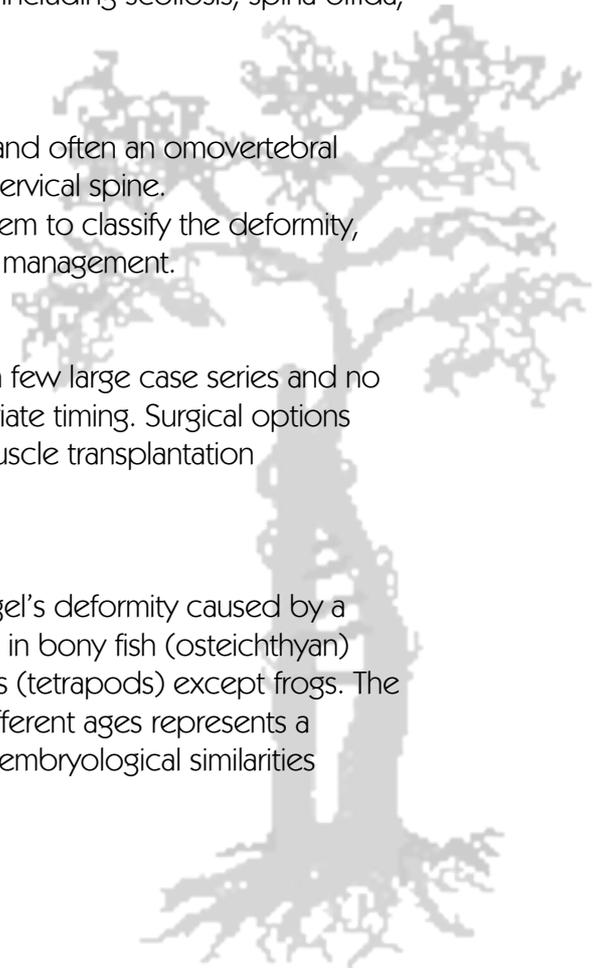
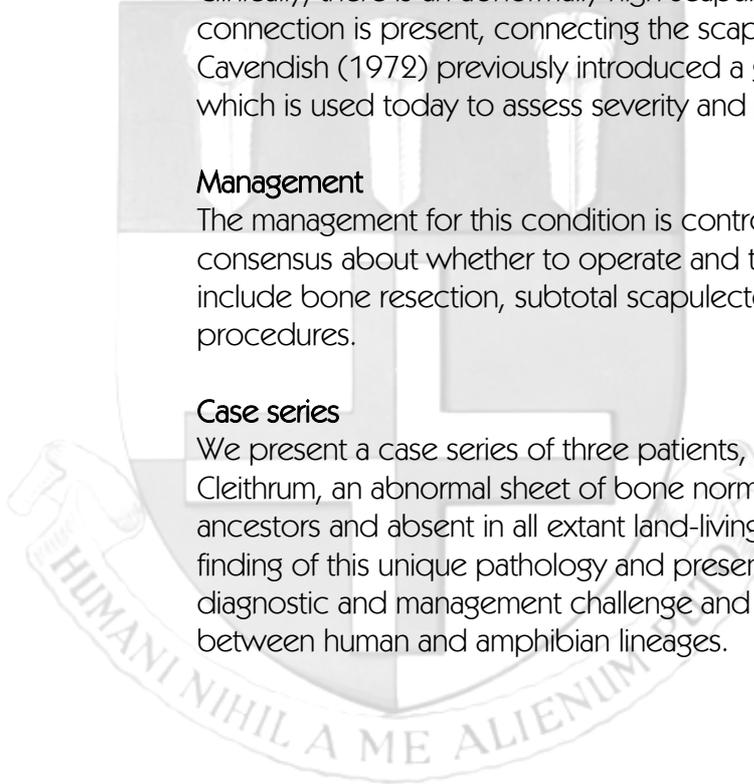
Cavendish (1972) previously introduced a grading system to classify the deformity, which is used today to assess severity and plan further management.

Management

The management for this condition is controversial with few large case series and no consensus about whether to operate and the appropriate timing. Surgical options include bone resection, subtotal scapulectomy and muscle transplantation procedures.

Case series

We present a case series of three patients, with Sprengel's deformity caused by a Cleithrum, an abnormal sheet of bone normally present in bony fish (osteichthyan) ancestors and absent in all extant land-living vertebrates (tetrapods) except frogs. The finding of this unique pathology and presentation at different ages represents a diagnostic and management challenge and insight into embryological similarities between human and amphibian lineages.



Long Term Outcome in Paediatric Patients following Patella Realignment with a modified Grammont Technique

Lidder S¹, Kraus T², Schneider F², Rippel K², Linhart W².

¹ *Department of Trauma and Orthopaedics, Eastbourne District General Hospital, East Sussex, UK.*

² *Department of Paediatric Orthopaedics, Medical University of Graz, Graz, Austria.*

Introduction

Patella dislocation is one of the most common causes of haemarthrosis in children and adolescents. Non-operative management is recommended for first time patella dislocations in the skeletally immature however re-dislocation rates may be as high as 71%. With a failed conservative approach, operative treatment to re-align the patella may be necessary. Few studies report long-term outcomes.

Objectives

Long-term functional and radiological outcomes in skeletally immature patients treated for recurrent patella dislocation using a modified Grammont surgical technique are reported.

Methods

Retrospective review of the paediatric database (1999 to 2004). Inclusion criteria, 1) recurrent patella dislocation / 1st time patella dislocation with osteochondral fragment identified on MRI, 2) open physis at time of surgery, 3) Modified Grammont surgical technique for patella realignment and 4) compliance to the post operative rehabilitation protocol.

The modified Grammont surgical technique is described.

Results

43 patients (58 knees) at final follow-up of 8.4 years (5.5 to 11). Level of activity decreased from a Tegner score of 6.2 to 5 ($p=0.002$). Lysholm Score was 82 post operatively with 56% of patients having a good outcome. Visual analogue score improved significantly from mean of 6.2 to 2.6 ($p<0.001$).

At follow up, 10.3 % (6/58) of knees showed 1st to 2nd degree signs of osteoarthritis according to the classification of Kellgren.

11 knees (19%) had recurrent dislocations after surgery. 8 knees had a single dislocation within 3 months following surgery. 3 knees had repeated late dislocations.

Discussion

Recurrent patella dislocations failing to respond to conservative treatment require operative intervention to prevent chondral damage and subsequent osteoarthritis.

In this study, a modification to the Grammont procedure is described. This technique preserves the integrity of the pes anserinus tendon and allows restoration of the distal patella tendon alignment by dynamic positioning using continuous passive motion following surgery. The tibial apophysis is also preserved.

The surgical management of children and adolescents with recurrent patella dislocations is challenging. This study demonstrates that a modified Grammont procedure represents a feasible method to treat recurrent patella dislocation in skeletally immature patients. The advantages of the procedure are early improvement in functional and good long-term outcome with no growth disturbance of the physis.

Patients with higher grade patella-femoral dysplasias (Dejour Type C) should be informed, that they have a higher risk of re-dislocation and that additional surgery might be required after skeletal maturity.

News

Current Trainees:

Hilary Bosman, Wai Yoon, Joanna Thomas, Chetan Jayadev, Claire Middleton, Wisam Al-Hakim, Ed Britton, Shafic Al-Namari, Alasdair Thomas, Sarah McMahon, Mahub Alam, Charlie Jowett, Sam Heaton, Sherif El-Tawil, Steve Key, Asif Parkar, Emeka Oragui, Anna Berridge, Simond Jagernauth, Mohamed Sukeik, John Stammers, Jagwant Singh, Ramsey Chammaa, Rishi Dhir, Natasha Picardo.

New Appointees:

Alazzawi Sulaiman

Consultant Appointments:

Simon Matthews -Wagga Wagga Base Hospital, New South Wales, Australia

Adam Way - Frimley Park

Nima Heidari - Royal London

Ali Noorani - Royal London

David Crone - Brighton

Nic Wardle - Colchester

Fellowships:

Hilary Bosman

Jonathan Webb Knee Fellowship; Bristol. Sports trauma, lower limb fellowship; Perth

Nima Heidari

Limb Reconstruction Fellowship; Bristol Royal Infirmary. EFFORT Foundation Travelling Fellowship; Joint reconstruction Unit, Lille University Hospital, France.

Natasha Hossain

Leeds foot and ankle fellowship

Ali Noorani

Shoulder and Elbow Fellowship; Liverpool

BOA Travelling Fellowship.

BOA Zimmer and RLHOTS.

Nic Wardle

The Royal Bournemouth Hip Reconstruction fellowship.

British Hip Society Travelling Fellowship; Berlin, Germany

FRCS (Tr & Orth):

Ed Britton, Wisam Al Hakim, Shafic Al-Namari, Mahub Alam

Marriages & New Arrivals:

Congratulations to:

Jo Thomas on the birth of Charlie and Richard McKenna, May 7th 2012

Asif Parker on the birth of Afiya, Feb 2012

Charlie Jowett and Camilla on their marriage

Delegate List

Ahmed Ali	Jeh Mahaluxmivala	Sherif El-Tawil
Alasdair Thomas	Joanna Thomas	Simon Adesina
Alex Watson	Joerg Friesenbichler	Simon Mellor
Alexander Montgomery	John Bradley	Simon Matthews
Ali Al-Sabti	John Stammers	Simond Jagernauth
Ali Noorani	Josh Lee	Stephen Key
Amer Khan	Livio Di Mascio	Steve Kahane
Amit Amin	Lucky Jayaseelan	Surjit Lidder
Andreas Leithner	Mandeep Lamba	Swee Ang
Andrew Flood	Manoj Ramachandran	Syed F M Gillani
Anna Peek	Marcella Marchese	Tanja Kraus
Ankit Desai	Mat Smith	Tanvir Khan
Annelie M Weinberg	Mathew Sewell	Thomas Bucknill
Antony Greer	Matthew Barry	Wisam Al-Hakim
Asif Parker	Michael Elvey	Wai Weng Yoon
Arif Khan	Mike Taylor	Yasin Assraff
Boyd Goldie	Mohamed Sukeik	Yasir Shaukat
Ben Okafor	Moataz El-Husseiny	
Bill Grange	Natasha Hossain	
Charlie Jowett	Nic Wardle	
Cesc Malagelada	Nima Heidari	
Claudia Maizen	Parag Jaiswal	
Dan Williams	Paul Lee	
David Crone	Pinak Ray	
David Nairn	Prim Achan	
David McKenna	Rajiv A. Bajekal	
Eric Nectoux	Rajiv Bajekal	
Franz Josef Seibert	Rishi Dhir	
Gareth Scott	Robin Chapman	
Graham Robbins	Robin Sudlow	
Harry Dean	Rohit Gupta	
Henry Burnand	Rumina Begum	
Hilary Bosman	Rya Ruxton	
Ian Garnham	Salah Atrah	
Izzy Ahad	Sam Heaton	
Jagwant Singh	Saket Tibrewal	
Jane Ward	Shafic Al-Nammari	

