



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

1st July 2011

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 Fourth 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 and includes visiting speakers whose topics cover trauma, hip, knee and shoulder reconstruction. We have the good fortune of hearing from two leading experts in the field of tumour reconstruction this year. 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

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Membership Secretary
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Jo Thomas
Academic Secretary

Nima Heidari
Acting Academic Secretary
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Founding Committee Members:
Ali Noorani, Wai Yoon, Nic Wardle, Nima Heidari

Junior Committee Members:
Sarah McMahon, Anna Berridge, Steve Keys

The Fourth Annual Meeting of The Royal London Hospital Orthopaedic & Trauma Society has been generously sponsored by Synthes, Johnson & Johnson, Stryker, Bayer and Smith & Nephew. 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 embarking upon a fellowship. The award is given to aid expenses and is not intended to go towards covering the cost of courses.



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."

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 fellowship does *not* have to be outside of the United Kingdom to be eligible

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 2012, and the closing date has been set as 28th February 2012.

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

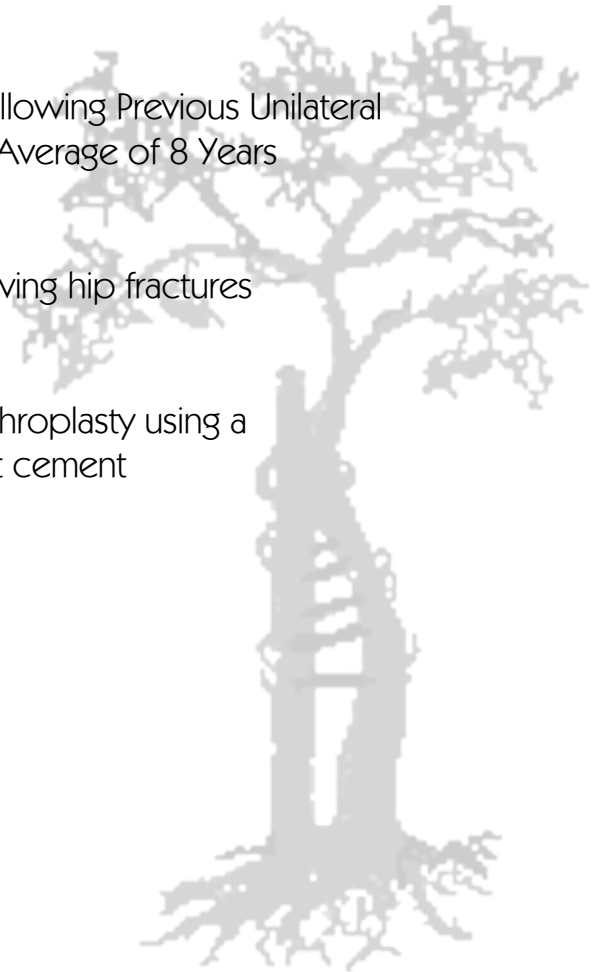
Bilateral Cementless Total Knee Replacement Following Previous Unilateral High Tibial Osteotomy: Functional Results at an Average of 8 Years

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



***The Fourth Annual Meeting of the Royal London Hospital
Orthopaedic and Trauma Society***

Kensington Roof Gardens

Friday 1st July 2011



08:30 – 09:00	Registration and Coffee
09:00 – 09:10	Mr TM Bucknill Welcome address from the Chairman
09:10 – 09:40	Mr N Thomas <i>"Knee Reconstruction – New Aspects"</i>
09:40 – 10:15	Registrar Paper Session 1
10:15 – 10:45	Univ. Prof. Dr A Leithner <i>"Reconstruction after tumour surgery - prosthesis vs. allograft"</i>
10:45 – 11:00	Coffee
11:00 – 11:45	Registrar Paper Session 2
11:45 – 12:15	Prof. T Briggs <i>"Modern Management of Bone Sarcomas & Recent Advances"</i>
12:15 – 13:15	Lunch
13:15 – 14:00	Synthes Resident Program – Femoral Fracture Fixation
14:15 – 14:45	Mr M Barry <i>"Trauma Reconstruction - Management of Traumatic Bone Loss"</i>
14:45 – 15:15	London SpR Fellowship Reports Mr A Noorani: BESS Travelling Fellowship Mr D Crone: The Christchurch Earthquake: The Fellowship of the Ring
15:15 – 15:40	Coffee
15:40 – 16:10	Mr S Lambert <i>"(Shoulder)R⁵"</i>
16:10 – 16:40	Mr G Scott <i>"Hip Reconstruction - Fashion, trends, research and development"</i>
16:40 – 16:50	Presentation of the Freeman Prize for the best SpR paper and Announcement of the winner of the RLHOTS Travelling Fellowship
16:50 – 17:00	The Royal London Rotation Trainer of the Year Award

Invited Keynote Speakers

Prof. Tim Briggs

Consultant Orthopaedic Surgeon

Bone Tumour Unit, Royal National Orthopaedic Hospital, Stanmore, UK

ao.Univ.-Prof. Dr.med.univ. Andreas Leithner

Department of Orthopaedic Surgery, Medical University of Graz, Austria

Mr Neil Thomas

Consultant Orthopaedic Surgeon

Basingstoke & North Hampshire Hospital, Basingstoke, UK

Mr Matthew Barry

Consultant Orthopaedic Surgeon

Royal London Hospital, London, UK

Mr Simon Lambert

Consultant Orthopaedic Surgeon

Royal National Orthopaedic Hospital, Stanmore, UK

Mr Gareth Scott

Consultant Orthopaedic Surgeon

Royal London Hospital, London, UK



Registrar Podium Presentations

Session 1 9:40 – 10:15

Venous thromboembolism after total hip and knee arthroplasty and hip fractures: A novel method for monitoring rates

Alam M, Mula VR, Maitra NU, Suresh SP, Loeffler MD

Treatment of fracture non-union using pulsed electromagnetic stimulation

Heaton SR, Assiotis A, Sachinis N, Ali A

Silver surface-modified endoprostheses used in the prevention and eradication of infection in high risk oncology and arthroplasty patients

Nawabi DH, Dhinsa B, Gregory JJ, Aston W, Pollock R, Blunn G, Briggs TWR

Session 2 11:00 – 11:45

Radiological landmarks for the extra-capsular placement of supra-acetabular external fixator

Heidari N, Lidder S, Gänsslen A, Grechenig W, Tesch NP, Weinberg AM

The implementation of the Enhanced Recovery Pathway for elective lower limb arthroplasty procedures in a district general hospital

Tsitskaris K, Saksena J

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

Jaiswal PK, Mangat N, Chenu C, Goodship A, Marsh D

Next generation of growth rods: Preliminary clinical results of a remote-operated magnetic growth rod in early onset scoliosis

Dannawi Z, El-Sebaie HB, Akbarnia BA, Noordeen H

Venous Thromboembolism after Total Hip and Knee Arthroplasty and Hip Fractures: A Novel Method for Monitoring Rates

Alam M, Mula VR, Maitra NU, Suresh SP, Loeffler MD

Colchester Hospital University Foundation NHS Trust, Essex, UK

Introduction

The incidence of VTE used to base recommended prophylaxis regimes remains controversial. This article describes a novel method of monitoring VTE rates following Total Hip (THA), Total Knee Arthroplasty (TKA) and surgery for Neck of Femur fractures (NOF#).

Materials and Methods

Over a 3 year period all patients undergoing lower limb Doppler ultrasound scans, Ventilation-Perfusion scans and Computer Tomography Pulmonary Angiogram (CTPA) at Colchester Hospital were analysed using the Picture Archiving and Communications System (PACS). All scans positive for VTE were then cross-referenced using PACS, theatre records and local registry data to see if they had undergone THA, TKA or surgery for NOF# in the preceding 90 days. All elective THR and TKR patients received Enoxaparin 20mg OD started 12 hours pre-op. The NOF# patients began LMWH prophylaxis on admission. Peri-operative pneumatic compression was used for 24 hours. 75 consecutive patients were also contacted to assess postoperative movements in the 90days following surgery.

Results

73 of the 75 patients contacted remained within the catchment area for the 90 day postoperative period. 2356 patient underwent either CTPA or V/Q scan for PE and 3432 patients underwent Doppler US for DVT (total scans 5788). After cross-referencing, we found 29 confirmed diagnoses of PE and 24 confirmed cases of DVT. There were 13 cases (13 out of 1954, 0.67%) of symptomatic DVT in the THA group, 1 case (0.05%) after TKA and 10 cases (0.55%) after surgery for NOF#. The number of confirmed symptomatic PE was 9 for THA (0.46%), 5 for TKA (0.26%), and 15 for NOF# (1.03%).

Conclusions

The 90 day post-operative prevalence of symptomatic VTE of 1.1%, 0.32% and 1.6% in THA, TKA and NOF# respectively are similar to other studies using symptomatic and imaging positive VTE as their endpoint. The study uses a relatively simple method of collecting data regarding the incidence of symptomatic VTE in postoperative THA, TKA and NOF# patients, which can be utilised in centres where PACS is available.

Treatment of fracture non-union using pulsed electromagnetic stimulation

Heaton SR, Assiotis A, Sachinis N, Ali A

Queen's Hospital, Romford, Essex. UK.

Introduction

A retrospective study analysing the use of pulsed electromagnetic stimulation (PEMF) in 45 patients with fracture non union after failure of conventional treatment.

Methods and Materials

We reviewed the medical notes and radiographs of 45 patients that received PEMF during 2006-2010 in our institution for confirmed non union. PEMF is a type of bone stimulation that utilizes electromagnetic pulses to promote healing. Each patient used the device for 3 hours daily. The information gathered included the age, site and type of fracture (whether open or closed and simple or comminuted), date of initial fracture, date and type of each surgical procedure, date of the onset of PEMF treatment, date of stopping the treatment and whether clinical and radiographic union were achieved or not.

Results

Union was achieved in 32/45 patients (70.1%), Median time to union with PEMF was 29 (14-58) weeks. Time between first treatment and start of PEMF device (pre-time), and time spent from the start of PEMF device until union (post-time) were studied. Median of pre-time was 21 weeks (11-81 weeks), no statistical significance was demonstrated when comparing achievement of union with the pre-time. Median of post-time was 31 weeks (11-58 weeks). The Kaplan-Meier method was used to analyse the probability of fracture union in relation to duration of post-time PEMF. Although statistical significance was not demonstrated, the curve shows increased probability of healing with longer duration of treatment.

Conclusion

The percentage of union that was demonstrated (70.1%) is comparable with percentages quoted in other studies (70-87%). We were unable to show a statistical significance between the duration of PEMF and union rates. The authors believe PEMF is a useful non surgical intervention that can encourage fracture healing but larger randomized prospective series are needed.

Silver surface-modified endoprostheses used in the prevention and eradication of infection in high risk oncology and arthroplasty patients

Nawabi DH, Dhinsa B, Gregory JJ, Aston W, Pollock R, Blunn G, Briggs TWR
Bone Tumour Unit, Royal National Orthopaedic Hospital, Stanmore, UK

Introduction

Periprosthetic infection (PPI) remains a major problem in limb salvage surgery. Patients requiring massive reconstructions for bone tumours and recurrent infected endoprostheses, represent extremely high risk groups for PPI. To address this problem, we decided to take advantage of the bactericidal properties of silver, which are well known. Silver has been used on medical devices in the past and we have therefore surface-modified our titanium endoprostheses with silver in the form of positively charged ions. These ions are released over several months, eventually leaving a silver-free implant. The surface modification is thought to prevent the formation of a biofilm and also exerts bactericidal properties.

Objectives

To assess the effectiveness of silver surface modification in the prevention and treatment of PPI in high risk oncology and arthroplasty patients.

Methods

We retrospectively reviewed our first 51 consecutive patients who had limb salvage surgery with a silver surface-modified implant. 2 patients died of metastatic disease leaving 49 for review with a mean age of 47.5 years (range 12-80 years). The mean follow-up was 13.8 months (range 6 to 52 months).

Results

We implanted 50 silver surface-modified endoprostheses in 49 patients. 43 patients were infection-free at last follow-up, giving an overall success rate of 88%. We performed 9 primary reconstructions, 30 single-stage revisions, and 11 two-stage revisions. 27 (54%) implants were for high risk oncology cases and 23 (46%) implants were for infected or failed arthroplasty cases.

Of the oncology cases, the 9 primary reconstructions were: 2 pelvic, 4 tibial, 2 femoral and 1 humeral. 1 of these developed a postoperative infection that settled with antibiotics, giving an infection rate of 11% (1/9) for primary limb salvage surgery. The remaining 18 oncology cases were revisions of which 15 were infected cases. The mean number of previous revisions for infection for each of these cases was 2.7 (range 0 to 5). Our infection cure rate was 80% (12/15).

In the failed arthroplasty group, 21 of 23 revisions were for infection. The mean number of previous revisions for infection for each of these cases was 2.3 (range 1 to 8). 1 proximal femoral replacement and 1 distal femoral replacement remain infected despite two-stage revisions. The infection cure rate in this group was 90% (19/21).

Conclusions

Silver surface-modification of titanium endoprostheses gives an overall success rate of 88% when using infection as the end point. In the setting of primary reconstruction in oncology, our results indicate that silver is excellent in preventing infection in high risk groups. When revising recurrent infected endoprostheses in oncology and arthroplasty, our results indicate that silver may have a role in eradicating existing infection. Further evaluation of these modified implants is warranted in light of these encouraging results.

Radiological landmarks for the extra-capsular placement of supra-acetabular external fixator

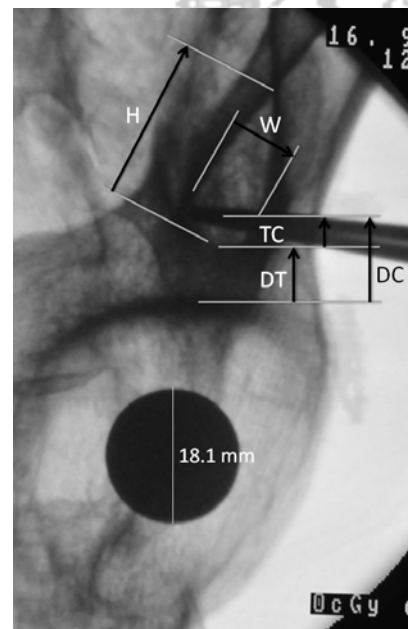
Heidari N, Lidder S, Gänsslen A, Grechenig W, Tesch NP, Weinberg AM
Institute of Anatomy and Trauma Surgery, Medical university of Graz, Austria

Introduction

Application of an external fixator for type B and C pelvic fractures can be life saving. Anteriorly the fixator half pins can be placed in the long and thick corridor of bone in the supra-acetabular region often referred to as the low anterior ex-fix. In some cases despite being extra-articular it may still be low enough to be intra-capsular. We have demonstrated radiological markers and measurements for the most superior fibres of the capsule to help accurate extra-capsular pin placement within the supra-acetabular bone tunnel.

Materials and Methods

Thirteen cadaveric pelvis were used for this study. An image intensifier was positioned to acquire an iliac oblique outlet view, such that the supra acetabular bone tunnel was visualised. A standard size metallic disc was included in all images within the acetabulum to allow for image calibration. The proximal most fibres of the hip joint capsule were marked so that their relation to the bone tunnel could be seen on the images and the following measurements were made.



Results

The mean height of the bone tunnel (H) was 24.9 mm (SD 4.3 mm, Range 18.9 – 33.2 mm) and the maximum width of the tunnel (W) was 11.7 mm (SD 2.6 mm, Range 7.6 – 16.3 mm).

The inferior margin of the bone tunnel (DT) was on average 7.4 mm (SD 3.4 mm, Range 1.1 – 14.4 mm) superior to the acetabular dome and the most proximal fibres of the capsule (DC) were on average 9.2 mm (SD 2.4 mm, Range 4.7 – 16.1 mm) superior to the acetabular dome. This meant that on average 3.6 mm (SD 2.1 mm, Range 0.3 – 8.9 mm) of the inferior portion of the tunnel is within the joint (TC). There was no statistically significant difference between the left and right sides.

Conclusion

There is adequate space for two long external fixator pins within the described tunnel. These should be placed in the upper half of the anterior inferior iliac spine. Below this level there is risk of being intra-capsular which can lead to septic arthritis. For this reason we recommend that supra-acetabular pins should be placed at least 16 mm superior to the acetabular dome as visualised on the iliac oblique outlet view.

The Implementation of the Enhanced Recovery Pathway for Elective Lower Limb Arthroplasty Procedures in a District General Hospital.

Tsitskaris K¹, Saksena J²

¹*SpR Trauma and Orthopaedics, North East Thames Rotation*

²*Consultant Orthopaedic Surgeon, Chase Farm Hospital*

Introduction

The enhanced recovery pathways are multimodal perioperative programs that aim to accelerate recovery, shorten hospital stay and reduce the complication rates following elective surgery. We aim to briefly outline what an enhanced recovery pathway (ERP) entails and present our results with regards to the length of stay following the implementation of an orthopaedic ERP in our department.

Methods

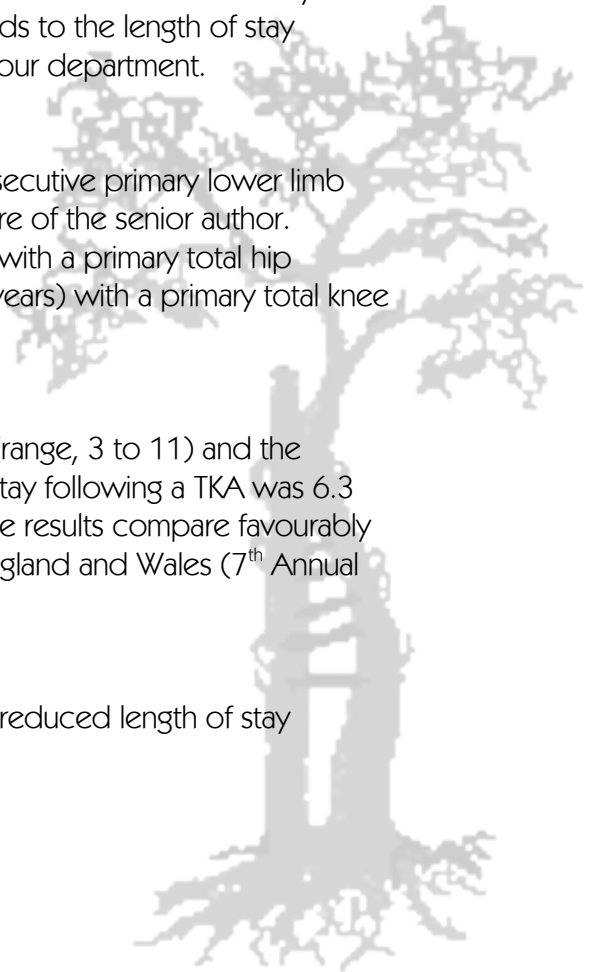
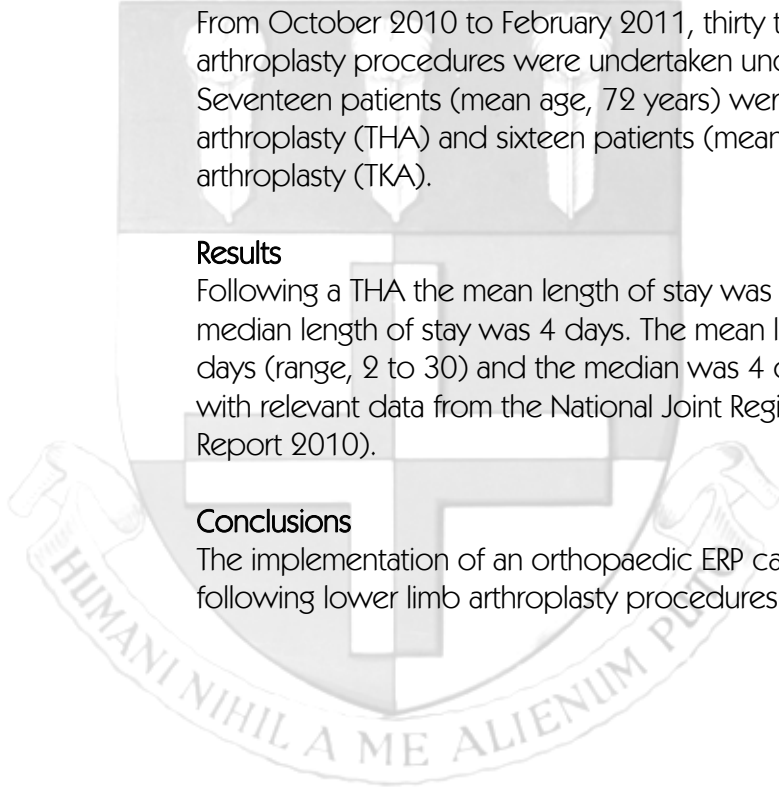
From October 2010 to February 2011, thirty three consecutive primary lower limb arthroplasty procedures were undertaken under the care of the senior author. Seventeen patients (mean age, 72 years) were treated with a primary total hip arthroplasty (THA) and sixteen patients (mean age, 72 years) with a primary total knee arthroplasty (TKA).

Results

Following a THA the mean length of stay was 4.7 days (range, 3 to 11) and the median length of stay was 4 days. The mean length of stay following a TKA was 6.3 days (range, 2 to 30) and the median was 4 days. These results compare favourably with relevant data from the National Joint Registry for England and Wales (7th Annual Report 2010).

Conclusions

The implementation of an orthopaedic ERP can lead to reduced length of stay following lower limb arthroplasty procedures.



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

Jaiswal PK¹, Mangat N¹, Chenu C², Goodship A², Marsh D¹

¹ Institute of Orthopaedics & Musculoskeletal Sciences, Royal National Orthopaedic Hospital

² Royal Veterinary College, London

Introduction

Conflicting opinions exist as to whether bone healing is delayed in the presence of osteoporosis or bisphosphonates. This paper will describe an animal model in which fracture repair is assessed in ovariectomised rats that have undergone a mid-diaphyseal femoral osteotomy. We tested the hypothesis that switching off osteoclastic activity would slower the process of fracture repair and lead to biomechanically inferior callus.

Methods

The study was performed on 36 female Wister rats that were divided into 3 groups: (1) control (no treatment); administration of alendronate (2) 14 days after osteotomy; (3) at the time of osteotomy. Osteotomy was held with a precise mini external fixator and performed 6 weeks after bilateral ovariectomies. Fracture repair was assessed weekly with the use of standardised radiography, DEXA scan and *in vitro* peripheral quantitative computed tomography (pQCT). 42 days post-osteotomy the rats were sacrificed and the femora underwent mechanical testing.

Results

Of the 36 rats, 8 were unable to complete the study. In all rodents, the osteotomy had healed by 6 weeks. There were significant differences in bone mineral content (BMC) and density (BMD) in group 3 compared with group 1. The size of callus was also greatest in group 3 compared with group 1. Torsional stiffness of the osteotomised femora were similar in groups 1 and 2 but significantly lower in group 3. There was a significantly positive correlation between stiffness and change in BMC in group 1 ($r=0.85$, $p<0.001$) but not so for group 2 ($r=0.2$, $p>0.05$) and group 3 ($r=0.04$, $p>0.05$). A similar trend existed for all radiographic parameters in the three groups.

Conclusion

The results suggest that although there is an increase in the size of the callus with bisphosphonate treatment, the callus is biomechanically inferior in quality. Furthermore, administration of bisphosphonates destroys the relationship between radiographic parameters used to assess fracture healing and mechanically properties.

Next generation of growth rods: Preliminary clinical results of a remote-operated magnetic growth rod in early onset scoliosis

Dannawi Z, El-Sebaie HB, Akbarnia BA, Noordeen H

Royal National Orthopaedic Hospital, Stanmore, London, United Kingdom & University of California, San Diego Center for Spinal Disorders, La Jolla, California USA.

Purpose

The aim of this study is to assess the safety and efficacy of a remote-operated magnetic growth rod in the treatment of 11 patients with progressive early onset scoliosis (EOS).

Introduction

The Growth rod technique (GR) has been a viable treatment option for progressive early onset scoliosis (EOS). However, an increased complication rate has been associated with conventional GR due to frequent surgeries required for lengthening. The safety and efficacy of a remote-operated magnetic growth rod (RO-MGR) has been previously reported in a porcine model. We are reporting the preliminary clinical results of this device which obviates the need for repeated surgeries.

Methods

Prospective analysis of early clinical and radiographic data of 11 patients, with EOS, undergoing index RO-MGR treatment and at least 3 distractions. The mean age was 8 years (Range 5-12 years). Four patients had single rod (SR) instrumentation and the remaining 7 had a dual rod (DR) construct. Diagnosis was idiopathic 3, neuromuscular 3, congenital 3, syndromic 1 and neurofibromatosis one. In total, 57 rod distractions were performed. Distractions were performed in the clinic without anesthesia or analgesics. The mean preoperative Cobb angle was 68° (range 46°-108°). The mean preoperative T1-S1 length was 304mm (range 243-361mm).

Results:

	Mean Pre-op	Mean Post-op	Final FU
Scoliosis	68°	46°	41°
Global thoracic kyphosis	33°	29°	32°
Total T1-S1 (mm)	304	335	344

Average distraction was 3.2 per patient. The mean lag before the first distraction was 66 days (28-112) and between distractions was 43 days (42-98). Superficial infection occurred in 1 (SR), prominent rod in 1 (DR), hook pull-out in 1(DR), iatrogenic shortening 1(DR) and loss of length in 2 patients (6/57 rod distraction, 11%, all SR), this loss was regained in subsequent distractions. Apart from a case of proximal rod trimming, no further surgery was required in our group of patients. Mean follow-up was 8 months (6-13).

Conclusion

Preliminary results indicate that RO-GR appears to be safe and provided a comparable distraction to the standard GR procedure without the need for repeated open surgeries. No major complications were observed in the short follow up period.

Conflict of interest statement: This is to confirm that no benefits in any form have been received or will be received from a commercial party related directly or indirectly to the subject of this article.

Poster Presentations

Individual and team training with first time users of the Pelvic C-Clamp. The Austrian approach

Koller H, Keil P, Seibert FJ

Postoperative procedure in ankle fractures with syndesmotic screw: should they be removed or left in place

Samonigg J., Krauss A, Mähring M, Seibert FJ

Effect of helmet law and "Stufenführerschein" on heavy head injuries with motorized two-wheeler drivers

Rauch M, Seibert FJ

Resection of proximal radio-ulnar synostosis and interposition of a de-epithelialized fat fascial flap

Kraus T, Traunwieser E, Neubacher S, Linhart W

Procalcitonin, interleukin 6 and interferon alpha before and after revision surgery for total hip and total knee prosthesis

Glehr M, Sadoghi P, Friesenbichler J, Giessauf C, Bernhard G, Zacherl M, Gruber G, Kapitan M, Leithner A

Accuracy of Digital Templating in Restoring Femoral Offset – Comparison of CT and Plain Radiography

Simon Matthews, Janan Chandrananth, Andrew Bucknill



Individual and team training with first time users of the Pelvic C-Clamp. The Austrian approach

Koller H, Keil P, Seibert F

Teaching hospital of the Medical University of Graz

Background

Pelvic ring injuries with associated hemorrhage from the presacral venous plexus are major contributors to morbidity and mortality in trauma patients. The pelvic C-Clamp is an often reported, yet seldom used device for both skeletal and hemodynamic stabilization. In a recent study we have already addressed this issue and have also stressed the importance of regular training sessions with the device. This study is aimed as an extended follow up.

Methods and Materials

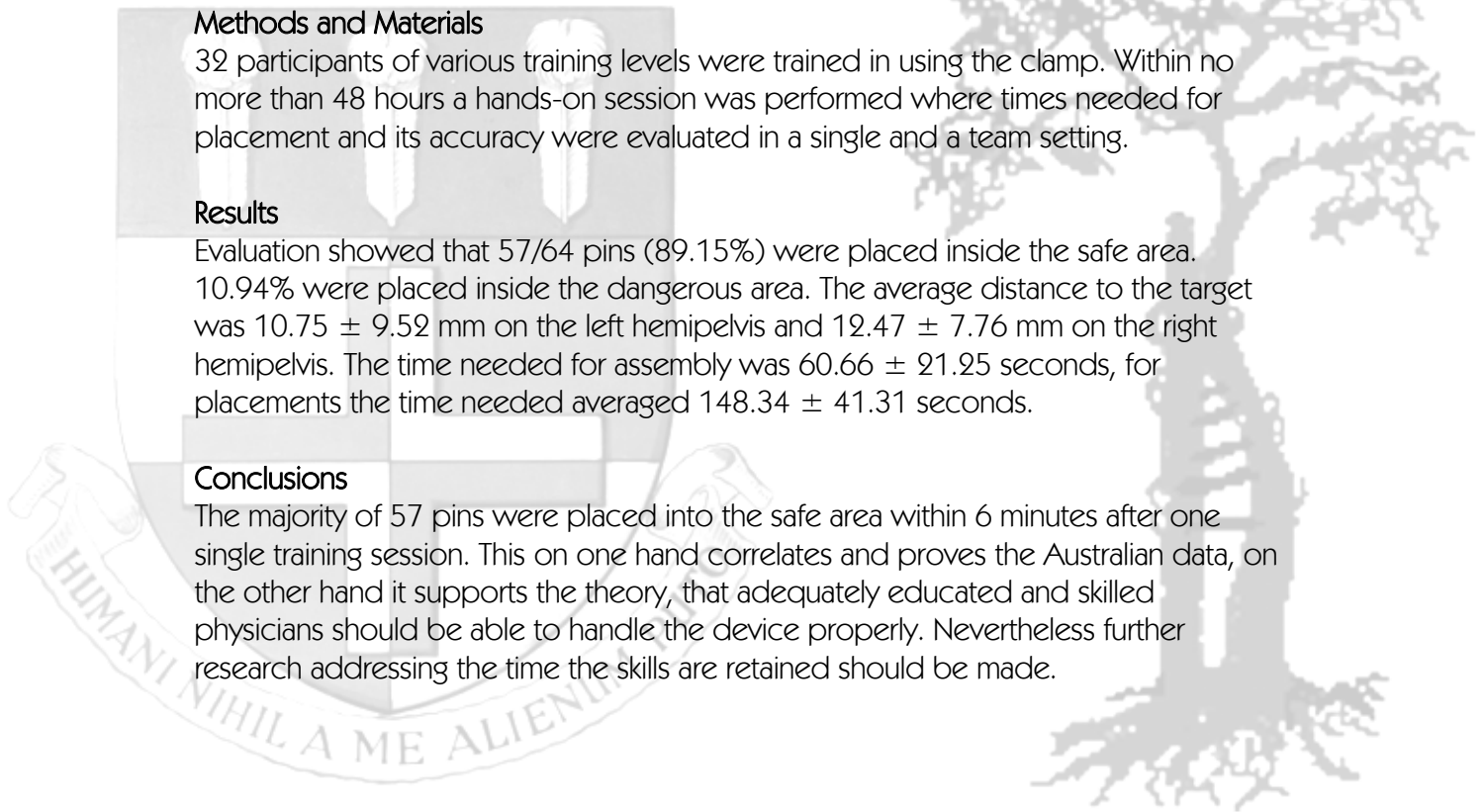
32 participants of various training levels were trained in using the clamp. Within no more than 48 hours a hands-on session was performed where times needed for placement and its accuracy were evaluated in a single and a team setting.

Results

Evaluation showed that 57/64 pins (89.15%) were placed inside the safe area. 10.94% were placed inside the dangerous area. The average distance to the target was 10.75 ± 9.52 mm on the left hemipelvis and 12.47 ± 7.76 mm on the right hemipelvis. The time needed for assembly was 60.66 ± 21.25 seconds, for placements the time needed averaged 148.34 ± 41.31 seconds.

Conclusions

The majority of 57 pins were placed into the safe area within 6 minutes after one single training session. This on one hand correlates and proves the Australian data, on the other hand it supports the theory, that adequately educated and skilled physicians should be able to handle the device properly. Nevertheless further research addressing the time the skills are retained should be made.



Resection of proximal radio-ulnar synostosis and interposition of a de-epithelialized fat fascial flap

Kraus T, Traunwieser E, Neubacher S, Linhart W

*Department of Paediatric Orthopaedics; Medical University of Graz,
Austria*

Introduction

The proximal radio-ulnar synostosis is a rare congenital or acquired deformity. As the deformity results in a fixed forearm pronation, patients are required to adopt a variety of compensatory movements during activities of daily living.

The simple resection of the synostosis bears the risk of recurrence due to bridging callus formation. To prevent this re-synostosis, a de-epithelialized fat fascial flap was placed between the proximal radius and ulna. This report presents the surgical technique and preliminary postoperative medium-term results.

Materials and Methods

Between 2000 and 2004 five congenital and one acquired radio-ulnar synostosis were treated by resection and fat fascial flap interposition. Patients were between 2.5 and 18 years old at the time of surgery. The follow-up period was 4 to 9 years (□ 6 years and 8 months). To assess outcome, the Quick Dash Score and radiographs were evaluated.

Results

Forearm pronation and supination improved markedly and reached 50° after surgery on average. We encountered one postoperative wound infection which required surgical intervention. The postoperative DASH Score was 11 at the end of follow-up and we observed no recurrence of a radio-ulnar synostosis so far.

Conclusion

The presented method seems suitable for correcting radioulnar synostosis. A medium-term follow up shows markedly improved ranges of motion for the pro- and supination of the forearm.

Effect of helmet law and "Stufenführerschein" on heavy head injuries with motorized two-wheeler drivers

Rauch M, Seibert F

Background

Particularly since World War Two you have been able to see a worldwide increase in the number of those who have had a moped or motorbike as their hobby or to use them as faster means of transport in the increasingly heavy city traffic. As a result numbers of accidents have been rising too. Head injuries are among of the most common consequences of accidents involving powered two-wheelers.

Aim

The present work is to show how a compulsory wearing of helmets affects those head injuries. Furthermore, the impact of the "Stufenführerschein" in Austria is featured.

Methods, Materials

In the process of a literature research, results of different international studies were collected and worked out. The focus was on creating an international comparison.

Results

Driving without a helmet increases the risk of head injuries – according to the study – from 3 up to 6 times. The risk to suffer a moderate or heavy head injury without wearing a helmet is about 5 times higher than it is with a helmet. Moreover the risk of a traumatic intracranial bleeding increases up to 5 times. In parts of Italy the number of traumatic intracranial bleedings decreased after the implementation of a compulsory helmet by 76%. In Maryland (USA), the number of fatalities per 10,000 registered motorcycles decreased by 56% in the years after the government introduced the helmet law. The "Stufenführerschein" in Austria led to a decrease in the number of injured and killed moped and motorcycle riders. On the other hand, the implementation of the scheme "moped with 15" led to a plus of 150 injured people from 1997 to 2000.

Conclusion

A helmet law always has a positive effect on the frequency and severity of head injuries. Moreover the figures also show a clear decline in deaths. The "Stufenführerschein" also has a positive impact on the number of dead and injured motorists "moped with 15" instead, caused an increase in the number of injured moped riders of 15.

Postoperative procedure in ankle fractures with syndesmotic screw: should they be removed or left in place

Samonigg J., Krauss A, Mähring M, Seibert FJ
Trauma Hospital Graz, Austria

Introduction

There are two approaches to the after-treatment of dislocation fractures of the ankle joint stabilized with a positioning screw: either the positioning screw is removed after a certain time, or it is left in place indefinitely. There is, however, no solid evidence of the advantages and disadvantages of these two approaches. The aim of the study presented here was to evaluate and compare the effects of these two procedures.

Methods and Patients

Patients at the Trauma Hospital in Graz whose fractures of the ankle joint were stabilized surgically with a positioning screw between July 2005 and December 2007 were included in this retrospective open monocentric study using clinical and radiological findings to determine the advantages and disadvantages of removing the positioning screw or leaving it in place. The study was based on the scoring systems of OLERUD-MOLANDER and WEBER, augmented by prospectively determined radiological parameters. The evaluation was based on comparison of those patients whose positioning screw was removed, and those in whom the positioning screw was left in place indefinitely.

Results

Of the 98 patients included in the study, 95 could be evaluated. In the average follow-up period of 29 months (13-45 months) the positioning screw was left in place in 15 patients (16%) who formed group 2. In the remaining 80 patients (84%) in group 1, the positioning screw was removed: in 39 patients within 6-8 weeks, and in 41 later than 8 weeks postoperatively. None of the scores used showed significant differences between patients in groups 1 and 2, or in the subgroups. The radiological results showed perfect anatomical results in 33% of group 2, which was significantly better than in group 1, with 11%. The results of subgroup 1a of group 1 (removal within 8 weeks) were twice as good as in subgroup 1b (removal after 8 weeks or more), with 15% vs. 7% perfect anatomical results.

Conclusion

Retrospective analysis showed a heterogeneous picture of the advantages and disadvantages of positioning screw removal or non-removal. Prospective studies would be required to define more precisely the indications for removing fixative positioning screws or leaving them in place.

Procalcitonin, interleukin 6 and interferon alpha before and after revision surgery for total hip and total knee prosthesis

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Background

Conventional markers as leukocyte count and C- reactive protein (CRP) are not useful to further differentiate between septic and non-septic endoprosthesis failure which is mandatory for consecutive treatment strategy. The aim of this study was to investigate the sensitivity and specificity of the serum parameters Procalcitonin (PCT), Interleukin-6 (IL-6) and Interferon- alpha (IFN-alpha) in comparison to conventional parameters (leukocyte count, CRP) in the field of orthopaedic surgery.

Methods

Eighty-six patients (138 operations) were prospectively included. The blood parameters of interest were leukocyte count, CRP, PCT, IL-6 and IFN-alpha. Samples were taken preoperatively, on the first, the third and the seventh postoperative day. The sensitivity and specificity of these parameters was calculated. The hypothesis of this study was that a high level of PCT or IL-6 can predict bacterial joint infection.

Results

Accounting for all 138 operations only leukocyte count (p-value 0.0162) and CRP (p-value 0.0044) had a statistically significant influence on histology. The parameters PCT (p-value 0.0959), IL-6 (p-value 0.0580), and IFN-alpha (p-value 0.2807) were not significant. For leukocyte count the value of 6.339 G/l revealed a sensitivity of 80% and a specificity of 50%. The value of 5.409 G/l revealed a sensitivity of 90% and a specificity of 30%. For CRP the value of 21.318 mg/dl showed a sensitivity of 81% and a specificity of 78%. The value of 10.508 mg/dl had a sensitivity of 90% and a specificity of 71%. For IL-6 the value of 5.0 pg/ml had a sensitivity of 81% and a specificity of 71%. The value of 3.61 pg/ml had a sensitivity of 91% and a specificity of 57%.

Discussion

This study shows that the variability of Procalcitonin (PCT) levels among patients undergoing surgery for potential joint infection is very high before surgery. We conclude that a single PCT value is of poor informative value. Increase in PCT-level compared to presurgical level is sensitive/specific for recurrence/continuity of bacterial joint infection. Serum parameters like leukocytes, CRP, PCT, IL- 6 and IFN-alpha alone are not reliable enough to reveal definite diagnosis in joint infections.

Accuracy of Digital Templating in Restoring Femoral Offset – Comparison of CT and Plain Radiography

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The Royal Melbourne Hospital, Melbourne

Introduction

Restoration of normal joint biomechanics is important in total hip replacement (THR). This retrospective study compared the accuracy of pre-operative templating using both plain radiography and computed tomography (CT) scanning.

Methods

Following ethics board approval, a retrospective series of 85 patients (91THRs) who had undergone surgery over a 12 month period was identified. All patients had pre and post-op digital radiographs available for review. All patients were blindly templated by two of the authors. Subsequently operative records were reviewed. A subset of 14 patients also had pre-op CT scans available for comparison. The effect of femoral positioning on measured offset was assessed on a control group of 63 adult trauma patients.

Results

Mean patient age was 60.8 years and 60% were female. Mean offset was 40.4mm pre-op and 39.0mm post-op. Mean acetabular inclination was 44.6 degrees. Accuracy of templating within one size in terms of femoral size, stem offset, neck length and cup size was 81%, 77%, 65% and 82% respectively. Of the subset of patients with pre-op CT scans available, mean offset was 40.8mm compared with 39.6mm from plain radiography. Mean offset in the control CT group was 37.2mm with the femoral neck on average 18.7 degrees externally rotated to the coronal plane.

Conclusion

Our results suggest a plain radiograph with a calibration marker allows for accurate templating in the majority of cases. In cases where femoral positioning is suboptimal, the apparent difference in offset is not significant. Routine CT assessment is unjustified despite modern low-dose protocols.

News

Current Trainees:

Natasha Hossain, Ramon Tahmassebi, Zaher Danawi, Nima Heidari, David Crone, Anish Sanghrajka, Ali Noorani, Nic Wardle, Steve Millington, Hilary Bosman, Wai Yoon, Joanna Thomas, Chetan Jayadev, Claire Middleton, Chloe Critchley, Wisam Al-Hakim, Ed Britton, Shafic Al-Namari, Alasdair Thomas, Sarah McMahon, Mahub Alam, Charlie Jowett, Sam Heaton, Sherif El-Tawil, Steve Keys, Asif Parkar

New Appointees:

Emeka Oragui, Anna Berridge, Simond Jagernauth, Mohamed Sukeik, John Stammers, Jagwant Singh

Consultant Appointments:

Simon Matthews; Locum Consultant, Royal London Hospital
Adam Way; Locum Consultant, Frimley Park Hospital
Jit Mangwani; Consultant, Leicester
Haroon Mann; Consultant, Royal Free Hospital

Fellowships:

Nima Heidari; *Limb Reconstruction Fellowship, Bristol. EFORT Foundation Travelling Fellowship, Lille, France.*
Ali Noorani; *Liverpool Shoulder Unit, BESS fellowship to North America 2010, AO fellowship November 2010, BOA fellowship March 2011.*
Steve Millington; *Revision Arthroplasty/Complex Joint and Oncology Fellowships, Australia*

FRCS (Tr & Orth):

Wai Weng Yoon, Jo Thomas

New Arrivals:

From Mr & Mrs Millington, Zoe Margaret Millington 25/11/2010

Delegate List

P	Achan	V	Khanduja	
S	Adesina	H	Koller	(Graz)
H	Ahmed	T	Kraus	(Graz)
M	Alam	Sunil	Kumar	
W	Al-Hakim	Sujit	Kumar	
A	Ali	M	Lamba	
A	Al-Sabti	S	Lambert	
A	Amin	Prof	Leithner	(Graz)
A	Aqil	S	Lidder	
S	Atrah	J	Mangwani	
R	Bajekal	S	Matthews	
H	Banan	S	Mellor	
M	Barry	C	Middleton	
P	Bates	C	Natali	
H	Bosman	D	Nawabi	
J	Bradley	A	Noorani	
Prof T.	Briggs	H	Nordeen	
E	Britton	E	Oragui	
T	Bucknill	A	Parkar	
R	Chammaa	J	Parker	
R	Chapman	A	Peek	
D	Chau	H	Plaha	
D	Crone	A	Qamar	
B	Dhinsa	L	Rahman	
R	Dhir	M	Rauch	(Graz)
S	El-Tawil	P	Ray	
M	Elvey	J	Saksena	
A	Fahmy	J	Samonigg	(Graz)
A	Flood	G	Scott	
I	Garnham	T	Seepaul	
S	Gillani	Prof. F	Seibert	(Graz)
M	Glehr	M	Sewell	
B	Goldie	J	Singh	
D	Goodier	Z	Sivardeen	
B	Grange	P	Sloper	
T	Greer	R	Soni	
S	Heaton	J	Stammers	
N	Heidari	R	Sudlow	
N	Hossain	M	Sukeik	
M	Hynes	J	Thomas	
C	Jayadev	A	Thomas	
C	Jowett	N	Thomas	
S	Key	G	Verghese	
Arif	Khan	N	Wardle	
Amer	Khan			

