

BSSH

The British Society for
Surgery of the Hand

SCIENTIFIC MEETING

22nd - 23rd April 2010

EDUCATION & RESEARCH CENTRE
WYTHENSHAW HOSPITAL
MANCHESTER

PROGRAMME



BRITISH SOCIETY FOR SURGERY OF THE HAND

at the Royal College of Surgeons
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OUTLINE PROGRAMME**SCIENTIFIC MEETING : 22/33 APRIL 2010****THURSDAY, 22 APRIL**

- 07:15 Coaches from Premier Inn, Manchester Airport to Wythenshawe Hospital
- 07:30 Registration
- 08:00 Live demonstration of ultrasound-directed upper limb blocks, by Dr C Cleaver and Dr S Roberts, Consultant Anaesthetists, followed by live surgery from two theatres. Professor D A McGrouther and Mr D J Shewring will be leading the discussion throughout the morning in the Lecture Theatre; Mr D M Evans will be leading the discussions in the operating theatres.
- Short presentations throughout the morning:
- Flaps on the hand – Mr D Sammut and Mr H Giele
Dupuytren’s disease, the role of Collagenase and radiotherapy – Mr C Bainbridge
- Ultrasound Training will be held in Seminar Room 4
- Refreshments will be available throughout the morning
- 13:00 BSSH Business Meeting
(open to Members and Associates only)
- 13:00 Luncheon, Trade Exhibitions and Ultrasound Training
- 14:00 Welcome by Mr Julian Hartley, Chief Executive of the University Hospital of South Manchester Foundation Trust
- 14:05 **Symposium on hand transplantation and composite tissue transplantation**
Chairmen: Professor J J Dias/Miss V C Lees
Faculty: Professor H Piza, Dr S Schneeberger, Professor J Neuberger,
Dr A Bishop, Professor S P J Kay, Professor J Kulkarni, Dr C Leonard
- 17:00 Refreshments, Trade Exhibitions and Ultrasound Training
- 17:50 Free Paper: The use of Bone Distraction Devices in Congenital Hand Conditions
Mr T Bragg, Mr M Uglow, Mr E Gent, Professor N Clarke, Mr R Dunn (Salisbury)
- 18:00 Invited Lecture: Pollicisation and its long-term results - Professor H Piza
- 18:30 Invited Lecture: Early treatment and reconstruction of military injuries –
Mr M Craigen/Mr D Chester
- 18:50 Invited Lecture: Rehabilitation and late reconstruction – Mr R Dunn
- 19:10 Coaches from Wythenshawe Hospital to the Premier Inn, Manchester Airport
for delegates not wishing to attend the dinner
- 19:10 Buffet Dinner, Atrium of the Education & Research Centre
- 20:30 Lecture Theatre 1: “Life is too serious to take seriously.”
There is more than one ‘f’ in Professor
A light-hearted look at life and medicine
Professor J K Stanley/Professor F D Burke
- 22:00 Coaches from Wythenshawe Hospital to Premier Inn, Manchester Airport

OUTLINE PROGRAMME**FRIDAY, 23 APRIL**

- 07:15 Coaches from Premier Inn, Manchester Airport to Wythenshawe Hospital
- 07:30 Registration
- 08:00 3-Minute Free Papers with 2-Minute Discussion
- 09:05 Discussion on the use of digital tourniquets
- 09:20 Refreshments, Trade Exhibitions and Ultrasound Training
- 10:00 **Symposium on imaging of the upper limb**
Chairmen: Professor T R C Davis and Mr J Hobby
Faculty: Dr C Martinoli, Dr Jeyapalac, Dr W Bhatti, Mr B Bailey, Dr S Houson,
Professor S R Williams, Mr C West
- 11:25 Panel Discussion and Examples of Imaging of the upper limb
- 13:00 Luncheon, Trade Exhibitions and Ultrasound Training
- 14:00 My Stack Travelling Fellowship - Mr J L Hobby
- 14:20 Invited Lecture: What is the relevance of basic genetic and stem cell research
in Dupuytren's Disease? – Mr A Bayat
- 14:40 Invited Lecture: Our Present views on Brachial Plexus Reconstruction –
Dr A T Bishop, Mayo Clinic
- 15:10 7-Minute Free Papers with 3-Minute Discussion
- 17:10 Close of Meeting
- 17:10 Coaches from Wythenshawe Hospital to Premier Inn, Manchester Airport

THURSDAY, 22 APRIL

- 07:15 Coaches from the Premier Inn, Manchester Airport to Wythenshawe Hospital
- 07:30 Registration
- 08:00 Live demonstration of ultrasound-directed upper limb blocks, by Dr C Cleaver and Dr S Roberts, Consultant Anaesthetists, followed by live surgery from two theatres. Professor D A McGrouther and Mr D J Shewring will be leading the discussion throughout the morning in the Lecture Theatre; Mr D M Evans will be leading the discussions in the operating theatres.
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- Symposium on hand transplantation and composite tissue transplantation**
Chairmen: Professor J J Dias/Miss V C Lees
- 14:05 Research and development in transplantation – the management of immunosuppression – Dr S Schneeberger
- 14:50 Bilateral arm transplantation – Professor H Piza
- 15:20 Experimental work on vascularised bone and joint allo- and xeno-transplantation using host-derived neoangiogenesis for long-term survival – Dr A T Bishop
- 15:35 Feasibility of hand transplantation in the UK – Professor S P K Kay
- 15:50 Overview of transplantation and advise on the planning of hand and composite tissue transplantation in the UK – Professor J Neuberger
- 16:05 Overview of solid organ transplantation with special reference to the effects of long-term immunosuppression - Dr C Leonard
- 16:20 Function with bilateral upper limb prostheses – Professor J Kulkarni
- 16:35 Panel discussion
- 17:00 Refreshments, Trade Exhibitions and Ultrasound Training

THURSDAY, 22 APRIL**CHAIRMAN: PROFESSOR S P J KAY**

17:50

The use of Bone Distraction Devices in Congenital Hand Conditions

Mr T Bragg, Mr M Uglow, Mr E Gent, Professor N Clarke, Mr R Dunn (Salisbury)

We present our experience of the mini-Hoffman Stryker device and Taylor Spatial Frame (TSF) for distraction in congenital hand conditions.

Two cases (Case 1 and Case 2), with congenital brachymetacarpia, were treated by distraction using the mini-Hoffman device. Both cases achieved 3cm of distraction (the maximum permitted by this device), at a rate of 0.5 millimetres per day, commencing one week post-osteotomy. One case required re-fracturing at the osteotomy site, and later had pin site infection which resolved with antibiotic therapy. Both cases achieved full bony union after removal of the frame.

Two cases were treated using the TSF. The first (Case 3) was a girl with unilateral type IV radial dysplasia who had previously undergone pollicisation and wrist centralisation at the age of two, followed by a revision wrist correction aged 13, using a Habernicht distraction frame, combined with a soft tissue release and Evans bilobed flap. The ulna was short with some radial deviation. The TSF was used to achieve a further 6cm of distraction, with angular correction of the radial deviation.

The second (Case 4) was a boy with bilateral distal arthrogryposis. He had good elbow and shoulder function. He underwent distraction of both wrists using the TSF. The first side was achieved by application of the TSF and later soft tissue correction. Several improvements were made in the operative planning of the contralateral side following the lessons learned from the initial procedure.

References:

1. Page WT, Szabo RM Distraction osteogenesis for correction of distal radius deformity after physeal arrest. *J Hand Surg Am.* 2009 Apr; 34(4):617-26.
2. Das SP, Mohanty RN, Das SK Metacarpal lengthening by distraction histiogenesis in adults. *Indian J Orthop.* 2009 Oct; 43(4):379-82.
3. Nguyen ML, Jones NF Undergrowth: Brachydactyly *Hand Clin.* 2009 May; 25(2):247-55.

17:57

Discussion

18:00

Invited Lecture: Pollicisation and its long-term results – Professor H Piza

18:30

Invited Lecture: Early treatment and reconstruction of military injuries – Mr M Craigen/Mr D Chester

18:50

Invited Lecture: Rehabilitation and late reconstruction – Mr R Dunn

19:10

Coaches from Wythenshawe Hospital to the Premier Inn, Manchester Airport for delegates not wishing to attend the dinner.

19:10

Buffet Dinner, Atrium of the Education & Research Centre

20:30

Lecture Theatre 1: “Life is too serious to be taken seriously.”
There is more than one ‘f’ in Professor
A light-hearted look at life and medicine
Professor J K Stanley/Professor F D Burke

22:00

Coaches from Wythenshawe Hospital to the Premier Inn, Manchester Airport

FRIDAY, 23 APRIL

07:15 Coaches from the Premier Inn, Manchester Airport to Wythenshawe Hospital

07:30 Registration

3-MINUTE FREE PAPERS WITH 2-MINUTE DISCUSSION
CHAIRMEN: MR L MUIR/TBC

08:00 **Audit of the Use of a Local Transposition Flap following Digit Mucous Cyst Excision**
Ms N Nugent, Mr K Cronin (Dublin)

Introduction and Aims: Digital mucous cysts are ganglia arising out of the adjacent distal interphalangeal joint. They may be asymptomatic but can cause pain, leakage of mucous and nail deformities. Multiple surgical and non-surgical techniques have been described for their treatment. The aim of this study was to record the pre-operative symptoms experienced by our patients and to assess the effectiveness of our technique of cyst excision and the use of local transposition flaps.

Methods: Patients were identified retrospectively and their records reviewed. Surgery involved excision of the cyst and any associated osteophytes and resurfacing of the area with a local transposition flap. Post-operatively, patients were surveyed regarding their pre-operative symptoms, surgical outcomes and satisfaction with the procedure.

Results: Twenty patients underwent surgery over a 4 and 1/2-year period. Nineteen (95%) completed our questionnaire. All were symptomatic pre-operatively with the following: leakage of mucous 45%, pain 50%, swelling 90% and grooving of the nail 50%. There were no post-operative complications. One patient (5%) has had a recurrence of his nail deformity.

Conclusions: Excision of digital mucous cysts and resurfacing the area with a local transposition flap is a safe and effective procedure, which can be performed under local anaesthesia as a day procedure.

08:03 Discussion

08:05 **Patient Outcomes following Wrist Ganglion Excision Surgery**
Mr J Craik, Mr S Walsh (Dorchester)

Introduction: Wrist ganglia are the commonest benign tumours of the hand. These lesions can be managed with reassurance, aspiration or surgical excision. However, studies evaluating patient outcomes following these treatments have presented inconsistent results. Some recently published data suggests that there is no long-term benefit of excision or aspiration over reassurance alone. As a result surgical excision of wrist ganglia has fallen out of favour with some primary care trusts.

Methods: This retrospective postal questionnaire audit was conducted to assess patient outcomes following volar and dorsal wrist ganglion excision surgery. Sixty-two patients from a single surgeons practice were identified from the hospital records database between July 2003 and March 2008. All patients were selected for surgery based on strict symptomatic criteria.

Results: Fifty-one patients (82.3%) responded to a questionnaire with a mean time to follow-up of forty-four months (range 21 to 77 months). Pain and cosmetic concern were experienced pre-operatively by 78% and 70% of patients respectively. Other symptoms such as paraesthesia, weakness and stiffness were experienced to a lesser extent (25-45%). Following surgery, there was a statistically significant reduction in all symptoms experienced. Ganglions recurred in five patients (11.7%), of which four would consider further surgery. 96% of patients were satisfied with the treatment they received.

Conclusion: These results are comparable with other published data, suggesting that ganglion excision surgery provides good symptomatic relief and prevents recurrence to a greater extent than aspiration or reassurance alone.

FRIDAY, 23 APRIL**References:**

Dias J, Buch K (2003). Palmar wrist ganglion: does intervention improve outcome? A prospective study of the natural history and patient-reported treatment outcomes. *Journal of Hand Surgery – British Volume*, 28: 172-176.

Dias J, Dhukaram V, Kumar P (2007). The natural history of untreated dorsal wrist ganglia and patient reported outcome 6 years after intervention. *Journal of Hand Surgery - European Volume*, 32: 5: 502-508.

Varley GW, Needoff M, Davis TR, Clay NR (1997). Conservative management of wrist ganglia. Aspiration versus steroid infiltration. *Journal of Hand Surgery – British Volume*, 22: 636-637.

08:08 Discussion

08:10 **Subluxation-related Ulnar Neuropathy ‘SUN Syndrome’: Anatomical Relationships of the Ulna Nerve in Instability of the Distal Radioulnar Joint**

Mr P Malone, Miss V Lees, Mr N Kalson, Dr C Hutchinson (Manchester)

Background: Up to 38% of patients presenting with dysfunction of the DRUJ have subluxation-related ulna neuropathy (termed SUN syndrome) (previous communication to BSSH). The purpose of this study was to determine the relationships of the ulna nerve with reference to fixed bony points as the nerve passes across the radiocarpal joint into Guyon’s canal.

Methods: 3-tesla MRI scans were performed on both symptomatic patients and volunteers in five positions of pronosupination, using patients’ asymptomatic wrists as case-matched controls. The location of the ulna nerve was identified on each scan and its 3-dimensional course and relationships with surrounding structures plotted and then analysed using computer modelling techniques.

Results: Subluxation of the distal radius in symptomatic wrists with SUN syndrome is associated with changes in Guyon’s canal and deviation of the ulna nerve from its normal path.

Conclusions: SUN syndrome is a marker of instability of the DRUJ and is useful to elicit in clinical history where instability is suspected. This study has imaged and quantified the degree of distortion or kinking of the ulna nerve from its normal line. It is postulated that this mechanical distortion of the nerve produces the intermittent ulna neuropathy characteristic of the syndrome.

08:13 Discussion

08:15 **Recurrent Contracture after Dupuytren’s Surgery: Is there a Pattern?**

Mr H P Singh, Professor J Dias, Mr A Ullah, Mr B Bhowal (Leicester)

Objective: To assess patterns of recurrence in patients with Dupuytren’s disease after surgery for proximal interphalangeal joint (PIPJ) deformity.

Methods: Eighty-one patients (94 fingers) with Dupuytren’s contracture of the proximal interphalangeal joint underwent surgery to have either a ‘firebreak’ skin graft (46 fingers) or a fasciectomy (48 fingers). They were reviewed after three weeks, six weeks, 12, 24 and 36 months to note the range of movement and recurrence. Both groups were similar with regard to age, gender and factors considered to influence the outcome such as bilateral disease, family history, and the presence of diabetes, smoking and alcohol intake.

Results: The rate of recurrent contracture of PIP joint was 12.2%. Four patterns were identified: Group 1 (Responsive group: immediate improvement, maintained over three years), Group 2 (Improved group: initial mild loss of position but improvement maintained), Group 3 (Stiffness group: immediate significant worsening but maintained) and Group 4 (Recurred group: immediate loss of position with further progressive contracture). Time since onset of Dupuytren’s disease and pre-op PEM showed significant association with recurrent contracture on regression analysis (GEE, Wald chi square test, P<0.01).

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Conclusion: Four distinct patterns of recurrent contracture of PIP joint were identified three years after corrective surgery for Dupuytren's disease. Pre-operative PEM and disease duration could predict recurrence.

References:

Mäkelä E, Jaroma H, Harju A, Anttila S, Vainio J. Dupuytren's contracture: the long-term results after day surgery. *J Hand Surg [Br]* 1991; 16:272-4.

Dias JJ, Braybrooke J. Dupuytren's contracture: an audit of the outcomes of surgery. *J Hand Surg [Br]* 2006; 31:514-21.

Tonkin MA, Burke FD, Varian JP. Dupuytren's contracture: a comparative study of fasciectomy and dermofasciectomy in one hundred patients. *J Hand Surg [Br]* 1984; 9:156-62.

08:18 Discussion

08:20 **Carpal Tunnel Decompression and the Nerve of Berrettini: A Retrospective Audit of Nerve Preservation and its Effect on Scar Tenderness**

Mr C Lewis, Mr D Barnes, Mr D Sainsbury, Mr M Schenker (Newcastle upon Tyne)

Purpose: Post-operative scar tenderness is a recognised complication of carpal tunnel release. The Nerve of Berrettini is a superficial branch connection between the median and ulnar nerves found in 80% of the population, which overlies the transverse carpal ligament. Damage to this nerve during surgery may result in post-operative scar tenderness and painful neuroma formation. The aims of this audit are to establish whether preservation of the Berrettini nerve branch influences post-operative carpal tunnel scar tenderness.

Methods: An audit of patients undergoing carpal tunnel release between March 2006 and October 2008. Operation notes were reviewed to see if the nerve branch was preserved and subsequent scar tenderness.

Results: Ninety-nine patients underwent carpal tunnel release (30 (30%) male, 69 (70%) female; mean age 58 years (range 36 - 88 years)). The Berrettini branch was preserved in 31 (31%) patients, 68 (69%) patients had no documentation of nerve presence. Branch preservation resulted in nine (23%) patients with scar tenderness. Where the branch was sacrificed, 24 (31%) patients had tender scars. Three (3%) patients underwent bilateral carpal tunnel decompression where one Berrettini branch was preserved, and the other sacrificed. In this group, branch preservation resulted in one (7%) case of tenderness. Nerve sacrifice resulted in four (67%) cases of scar tenderness.

Conclusion: Preservation of the Berrettini palmar branch may have significant implications on post-operative scar.

References:

Kolic Z, Micovic V (1997) The anatomy of the Berrettini branch: implications for endoscopic carpal tunnel release. *Neurosurg Focus*, 3 (1)

Ahcan U, Arnez ZM (2002) Surgical technique to reduce scar discomfort after carpal tunnel surgery. *J Hand Surg*, 27A, 821- 827

08:23 Discussion

FRIDAY, 23 APRIL**08:25 Patient-reported Symptoms Enabling a Diagnosis of Motor Fascicle Compression in Carpal Tunnel Syndrome**

Mr C Modi, Mr K Ho, Dr V Hegde, Mr R Boer, Mr S Turner (Coventry)

Background: Median nerve motor branch compression in patients with carpal tunnel syndrome is usually characterised by reduced finger grip and pinch strength, loss of thumb abduction and opposition strength and thenar atrophy. Surgical decompression is usually necessary in these patients but may result in poor outcomes due to irreversible intraneural changes.

Hypothesis: The aim of this study was to investigate patient-reported symptoms which may enable a clinical diagnosis of median nerve motor branch compression to be made irrespective of the presence of advanced signs.

Methods: One-hundred-and-twelve patients (166 hands) with a clinical diagnosis of carpal tunnel syndrome were referred to the neurophysiology department and completed symptom severity questionnaires with subsequent neurophysiological testing.

Results: An increasing frequency of pain experienced by patients was significantly associated with an increased severity of median nerve motor branch compression with prolonged motor latencies measured in patients that described pain as a predominant symptom. An increasing frequency of paraesthesia and numbness and weakness associated with dropping objects was significantly associated with both motor and sensory involvement but not able to distinguish between them.

Conclusion: This study suggests that patients presenting with a clinical diagnosis of carpal tunnel syndrome with pain as a frequently experienced and predominant symptom require consideration for urgent investigation and surgical treatment to prevent chronic motor branch compression with permanent functional deficits.

08:28 Discussion

08:30 Static Monolateral External Fixation for the Rolando Fracture – A Simple Solution for a Complex Fracture

Mr D Marsland, Mr A Sanghrajka, Mr B Goldie (London)

Introduction: Rolando fractures are often difficult to manage because of their inherent instability. We describe a simple, new technique for the treatment of this fracture using the principle of ligamentotaxis, with a static, 2-pin external fixator spanning the trapeziometacarpal joint. We present the results and functional outcomes of this technique in our case series.

Methods: This study is a retrospective review of case notes and radiographs of a consecutive, single-surgeon case series of patients with intra-articular fractures of the base of the first metacarpal. Functional outcome was assessed with the Quick Disability of Arm, Shoulder and Hand score (Quick DASH).

Results: Nine patients (mean age 32.8 years, range 18.1-52.3 years) were treated with this technique. Mean follow-up was 2.7 years (range 3.5 months-6.0 years). The mean delay between injury and surgery was 6.6 days (range 1-11 days). Supplementary fixation or splintage were not required in any cases. The mean time to frame removal was twenty-eight days (range 15-41).

There were four cases of superficial pinsite infection; early frame removal was required in only one of these cases and the remaining three patients responded successfully to oral antibiotic therapy. There were no deep infections or other complications. Follow-up radiographs did not demonstrate significant joint incongruity or malunion in any case. The mean Quick DASH score was 7.95 (range 0-22.73).

Discussion: The results of this study support the use of spanning trapeziometacarpal external fixation for the Rolando fracture, as it reliably gives excellent outcomes, without significant complication.

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08:33 Discussion

08:35 **A Comparison of Compression Screw versus Tension Banding Techniques for Interphalangeal Joint Fusion**

Mr C Armitstead, Mr R Sharma, Mr A Mehra, Mr V Rajaratnam, Mr S Deshmukh (Birmingham)

Introduction: Arthrodesis of the distal interphalangeal (DIP) and proximal interphalangeal joint (PIPJ) is an accepted operative procedure to treat osteoarthritis, instability and joint deformity. Tension band wiring (TBW) and compression screw fixation (CS) remain two of the most commonly used methods of fixation. The aim of the study was to compare the outcome data of TBW and CS for IPJ arthrodesis.

Method: A retrospective study was conducted assessing clinical outcome for those patients undergoing TBW and CS joint fusion between July 2003 and October 2008.

Results: Fifty-five patients met the study criteria. Mean age was similar in both groups (TBW: 59, CS: 60 years) as was male to female ratio (TBW: 7:26, CS: 7:15). In total seventy-one joint fusions were performed (TBW: 44, CS: 28). The principal complication in both groups was prominence of metal work (TBW: 26 (59%), CS: 7 (25%). Other complications included continuing pain (TBW: 4, CS: 3), infection (TBW: 3), and non-union (1 in each group). Three joints (7%) underwent revision operations in the TBW group compared to one (3.6%) in the CS group. Thirty joints (68%) required removal of the implant in the TBW group compared to 11 (39%) in the CS group.

Conclusion: The current study shows that both TBW and CS are an effective surgical technique for obtaining clinical union of IP joints. However, it also demonstrates that those undergoing TBW have more complications with significantly more patients requiring removal of metal work necessitating a further surgical procedure.

References:

- 1) Leibovic S J. Internal fixation for small joint arthrodeses in the hand. The interphalangeal joints. *Hand Clin.* 1997 Nov; 13(4):601-13.
- 2) Isselstein CB, van Egmond DB, Hovius SE, van der Meulen JC. Results of small joint arthrodesis: comparison of Kirschner wire fixation with tension band wire technique. *J Hand Surg Am.* 1992 Sept; 17(5):952-6.

08:38 Discussion

08:40 **Power Tool Injuries to the Hand**

Miss K Wallis, Miss P Tay, Mr S Southern, Mr S Majumder (Wakefield)

Aim: Power tools are readily available to purchase and are frequently used both in occupational and domestic environments, sometimes with little or no training. This study aimed to investigate the extent of power tool injuries to the hand and their potential impact on health services and economics.

Method: A retrospective study of adult patients discharged from Mid Yorkshire's Hand Service in 2008 was conducted.

Results: Seventy-four patients sustained hand injuries whilst using power tools. The tools involved included circular saws, drills, and angle grinders. The majority of patients injured were male (97%) and 43% of incidents occurred at home whilst performing 'DIY' tasks. The types of injuries sustained included soft tissue injuries (n=32); bone and joint injuries (n=28); tendon injuries (n=19); neurovascular injuries (n=9); and soft tissue loss, including amputations (n=11). The majority of patients sustained a combination of these injuries. Sixty-three patients (85%) underwent surgery and the mean length of stay in hospital was two days. Return to work was, on average, forty-one days following the date of injury. Complications included hypersensitivity and reduced range of movement. Hand function at discharge was recorded in fifty-five patients, 38 of whom made a full recovery.

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Conclusion: Injuries sustained whilst using power tools frequently require surgical intervention, wound management and rehabilitation. Patients frequently require time off work while recovering from their injuries, with financial implications for both the patient and society as a whole. We suggest that education and awareness campaigns should be encouraged to decrease the incidence of power tool injuries.

08:43 Discussion

08:45 **Risk Factors in Lateral Epicondylitis (Tennis Elbow): A Case Control Study**

Mr A Titchener, Mr A Fakis, Mr A Tambe, Dr C Smith, Professor R Hubbard, Mr D Clark (Derby)

Introduction: Lateral epicondylitis is a common condition, but little is known about its aetiology and associated risk factors. We have undertaken a large case-control study to assess and quantify the relative contributions of some constitutional and environmental risk factors for lateral epicondylitis in the community.

Methods: Five thousand patients diagnosed with lateral epicondylitis after 2000 were randomly selected retrospectively from 'The Health Improvement Network' (THIN) database. In addition, four thousand nine hundred and ninety-eight controls were identified and matched by gender, age and general practice. The THIN database represents the computerised medical records of over four million patients registered at 308 general practices in the UK.

Results: Multivariate analysis revealed that the risk factors associated with lateral epicondylitis were rotator cuff pathology (Odds Ratio=4.81, 95% CI: 3.64-6.36, $p<0.001$), De Quervain's disease (OR=2.79, 1.30-6.01, $p=0.0023$), carpal tunnel syndrome (OR=1.77, 1.35-2.31, $p<0.001$) and trigger finger (OR=1.69, 1.02-2.82, $p=0.042$). Also associated were increased BMI (median 26.3, Inter quartile range 23.5-29.8 vs 25.9, 23.2-29.5 $p=0.0023$) and smoking ($p<0.001$). Rheumatoid arthritis and diabetes mellitus were not associated with lateral epicondylitis.

Conclusions: This study has identified some potentially important associations with lateral epicondylitis. These findings should guide future research into the aetiology of this condition.

08:48 Discussion

08:50 **The Value of Delayed Scaphoid X-rays in Suspected Fractures of the Scaphoid**

Mr Y Michla, Mr R Jeavons, Mr D Downen, Mr G DeKiewiet (Sunderland)

Introduction: Fractures of the scaphoid are easily missed at initial presentation. Usually we re-image suspicious injuries after a two weeks delay, allowing easier X-ray diagnosis. We feel this approach does not yield further injuries. Our study looked at whether repeat two-week delayed scaphoid X-rays showed injuries on X-ray that were not initially evident.

Method: Twenty-six patients in six months were referred to trauma clinic as possible scaphoid fractures. All had a normal initial scaphoid series but, due to clinical suspicion, had a repeat scaphoid X-ray after two weeks.

Results: 61% of patients were male with mean age of 31. Patients with hand dominance recorded were equally split between dominant and non-dominant hand injuries. Injuries were caused by falls (69%), direct trauma (15%) and punching (8%). Initial immobilisation was by scaphoid cast (34%), Colle's cast (30%) and volar splint (27%). Mean delay between reviews was nineteen days, (range 8 to 58 days). 85% of patients had no new fracture on the second scaphoid X-rays, whilst 15% of patients did have a visible fracture. Patients with delayed diagnosis were mostly male; 50% suffered a fall and 75% were immobilised in scaphoid cast until union.

Conclusion: In this series, the majority of patients referred as scaphoid fractures, with normal scaphoid X-rays initially, will have no fracture at second review. Our series is small, but a larger series is currently being collated and this may support a policy of discharging patients if no fracture is evident on initial scaphoid X-rays.

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08:53 Discussion

08:55 **The Role of Volumetric Radiographs in the Diagnosis of Clinically Positive but Radiographically Negative Scaphoid Fractures**

Mr A Rashid, Dr T Koc, Mr E O'Flynn, Mrs E Kramer-Hermann, Mr C Williams (Brighton)

Introduction: Patients presenting to clinic with a clinically positive but radiographically negative scaphoid injury pose a diagnostic challenge as there is no consensus regarding imaging. Volumetric radiographs, using VolumeRAD® (GE Healthcare, GE Definium 8000 digital X-ray system) allow multiple radiographs to be taken during fracture clinic, with a radiation dose equivalent to a standard 4-view scaphoid series, making it a safer, faster and cost-effective alternative to other modalities.

Methods: All patients with suspected scaphoid fractures between November 2008 and April 2009, who were clinically positive but had negative Zitter views (control) at the first clinic visit underwent volumetric assessment. Thirty exposures were performed in six seconds with a single sweep of the tube across the patient. The best 12-15 images were used to reconstruct the area of interest with a 0.1-5 cm slice interval and were compared to the controls by the senior author.

Results: Twenty patients (10 males and 10 females) between the ages of 10-84 years (mean 37 years) met the inclusion criteria. Patients were seen three - 30 days (mean 12 days) after the index injury. Four (20%) fractures were noted on the volumetric images which were not present on the corresponding controls.

Conclusion: Volumetric radiographs unite the benefits of X-ray with multi-slice imaging by removing overlying structures (improving sensitivity) and separating detail (enhancing specificity). They cost less and involve less radiation than other imaging modalities. Furthermore, there is no waiting time, as it can be performed during fracture clinic, allowing definitive management decisions to be made.

References:

1. Brookes-Fazakerley SD, Kumar AJ and Oakley J. Survey of the initial management and imaging protocols for occult scaphoid fractures in UK hospitals. *Skeletal Radiol.* 2009, 0364-2348.
2. Jenkins PJ, Slade K, Huntley JS, Robinson CM. A comparative analysis of the accuracy, diagnostic uncertainty and cost of imaging modalities in suspected scaphoid fractures. *Injury.* 2008, 39(7):768-74.
3. Kusano N, Churei Y, Shiraishi E, Kusano T. Diagnosis of occult carpal scaphoid fracture: a comparison of magnetic resonance imaging and computed tomography techniques. *Tech Hand Upper Extrem Surg.* 2002, 6(3):119-23.

08:58 Discussion

09:00 **Fixation of Scaphoid Non-union in the Presence of a Degenerate Carpus – Don't Rush to Salvage Surgery**

Mr M Kent, Miss L Young, Mr A Chojnowski (Norwich)

Introduction: Late presentation of scaphoid non-union with associated degenerate carpal changes is relatively common (scaphoid non-union advanced collapse - SNAC). Salvage surgery such as proximal row carpectomy or scaphoid excision and partial carpal fusion are often performed but such procedures have a relatively high complication rate and will inevitably reduce wrist movement. We hypothesised that significant symptomatic relief could be gained by scaphoid reconstruction in the presence of a degenerate carpus.

Materials and Methods: A review of our database was undertaken to find patients who had undergone scaphoid non-union bone graft and fixation more than two years after the initial injury (13) and had evidence of degenerative change on the pre-operative radiographs (9).

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Results: Four patients with a grade two SNAC wrist and five patients with a grade one SNAC wrist were identified. The mean time from injury was eight years (2-26). Definite radiological union was achieved in six out of the nine patients. Where union occurred, all patients had a significant improvement in patient self-reported outcome (Disability Arm Shoulder and Hand questionnaire). The three patients without definite radiological union continue with active follow-up. One patient has a definite non-union with screw loosening and two have remaining fracture gap at six months.

Conclusions: In this sub-group of scaphoid non-union patients we have demonstrated that union can be expected with bone grafting and fixation especially in waist fractures. When union occurs patients demonstrate an improvement in symptoms despite the presence of degenerative change.

References:

Trezie AJH, Davis TRC, Barton NJ. Factors Influencing the outcome of bone grafting surgery for scaphoid fracture non-union. *Injury* 2000;31(8):605-7

Mulford JS, Ceulemans LJ, Nam D, Axelrod TS. Proximal row carpectomy vs four corner fusion for scapholunate (slac) or scaphoid nonunion advanced collapse (snac) wrists: A systematic review of outcomes. *J Hand Surg Eur Vol* 2009;34(2):256-63

- 09:03 Discussion
- 09:05 Discussion on the use of digital tourniquets
- 09:20 Refreshments, Trade Exhibitions and Ultrasound Training

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SYMPOSIUM ON IMAGING OF THE UPPER LIMB CHAIRMEN: PROFESSOR T R C DAVIS AND MR J HOBBY

- 10:00 CT scanning – Dr Jeyalalpal, Leicester
- 10:30 MR scanning – Mr B Bailey and Dr W Bhatti, Manchester
- 11:00 Ultra sound imaging with special reference to imaging the brachial plexus – Dr C Martinoli, Genoa
- 11:30 PET scan – Dr S Houson
- 11:45 Functional MRI scanning of the brain – Professor S R Williams, Manchester
- 12:00 Experimental imaging research in upper limb nerve injury – Mr C West
- 12:10 Panel discussion and examples imaging of the upper limb

- 12:10 **The use of MRI in possible scaphoid fractures**
Mr A Bhutta, Mr S McLean, Mr P Wykes (Bolton)

Introduction: Diagnosis of scaphoid injuries may be difficult. Clinical fractures can be invisible on initial radiographs. Further X-rays rarely add value. Local Guidelines have been developed to employ early MRI in this situation.

Aim: To review our initial experience with early wrist MRI.

Method: One hundred consecutive patients were recruited from our wrist MRI database. Thirty-three were excluded. Sixty-seven were reviewed for provisional and final diagnosis.

Results: Mean age: 37 (IQR 26-49), 24 male:43 female

INITIAL RADIOLOGIST REPORT (%)

No bony injury – 60
Possible scaphoid fracture– 14
No report - 26

MRI REQUEST DETAILS (%)

Possible scaphoid fracture – 81
Unknown acute carpal pain – 17
Possible TFCC injury - 2
Mean time to scan was 23 days (IQR 12-25)

MRI DIAGNOSES

Injury	Percentage
Scaphoid fracture	6.0%
Scaphoid bone bruising	16.4%
Other carpal fracture	1.5%
Other carpal bruising	13.4%
Ligament injury	3.0%
TFCC tear	9.0%
Distal radius fracture	10.4%
Ganglion	3.0%
Oedema	1.5%
Normal	35.8%

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Conclusion: Over 35% of scans were normal. 6% have an undiagnosed scaphoid fracture. A significant proportion has bone bruising (29.8%) or distal radius fracture. 47% of patients investigated by MRI had occult bone injuries. In twelve cases more than one diagnosis. We believe early MRI is valuable in providing diagnosis, so limiting immobilisation and repeat visits. Our data suggests MRI's main role is to provide alternate diagnoses, rather than detect occult scaphoid fractures. With the high proportion of normal scans, we are now looking at whether MRI is cost effective in this situation.

11:32 Discussion

13:00 Luncheon, Trade Exhibitions and Ultrasound Training

14:00 My Stack Travelling Fellowship - Mr J L Hobby

**INVITED LECTURES
CHAIRMAN MR P D BURGE**

14:20 **Invited Lecture: What is the relevance of basic genetic and stem cell research in Dupuytren's Disease?**

Mr A Bayat, Manchester

14:40 **Invited Lecture: Our present views on Brachial Plexus reconstruction**

Dr A T Bishop, Mayo Clinic

15:10 **Restoration of Elbow Flexion by Nerve Transfer - Comparison between Proximal and Distal Nerve Transfers in One Hundred and Eighty-eight Avulsed Brachial Plexus Injuries**

Mr E K-W Liu, Professor D Chuang (Taoyuan)

Elbow flexion is the most important function of the upper limb and recovery is crucial in the functional outcome of patients with avulsed brachial plexus injuries. Distal nerve transfers provide faster re-innervation of the target muscles(s) compared to proximal transfers, as the distance needed for nerve regeneration is greatly reduced. The aim of this study is to analyse the recovery of elbow flexion in avulsed injuries between distal and proximal nerve transfers in our case series.

A retrospective case study of one hundred and eighty-eight patients with acute brachial plexus injuries was carried out. Elbow flexion power and recovery time between proximal and distal nerve transfers were compared. A selected number of distal nerve transfers had grip strength and nipple line arm circumference measurements for assessment of donor nerve deficits and flexor muscle bulk.

One hundred and fifteen out of 188 patients (61%) achieved functional elbow flexion ($M > 3$). There was no significant difference in the rate of recovery between those treated with proximal nerve transfers and those with distal ones (P -Value = 0.95). No significant difference was detected in the speed of recovery between the two (Proximal = 23.6 months, Distal = 19.0, P -Value = 0.131). Six out of seven patients had a grip strength weakness of 10kgs. Mean arm circumference was similar between the two groups (proximal = 3.14cms, distal = 3.63cms).

As there was no significant difference in rate of recovery between the use of proximal and distal nerve transfers in avulsion injuries, distal nerve transfers should only be used when indicated, as donor neurological deficits exist.

15:17 Discussion

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**7-MINUTE FREE PAPERS WITH 3-MINUTE DISCUSSION
CHAIRMEN: MR C A PAILTHORPE/MR D E BOYCE****15:20 Five-year Results of First-ever Randomised Clinical Trial on Treatment in Dupuytren's Disease:
Percutaneous Needle Fasciotomy versus Limited Fasciectomy**

Professor P Werker, Mrs A L Van Rijssen, Dr H Ter Linden (Zwolle/Groningen)

Aims: To compare the five-year follow-up results of percutaneous needle fasciotomy (PNF) and limited fasciectomy (LF) for Dupuytren's disease in a randomised controlled fashion.

Methods: Between 2002 and 2004, patients with a minimal contracture of 30° in any joint were randomly assigned. All patients were invited at six months, one year and then yearly until 5 years post-operatively. We recorded if recurrence or extension were found.

Results: One hundred and eight patients with 112 hands had reached the primary endpoint or stayed in for five years. Sixty of these had undergone PNF, 52 LF. In the PNF group, six patients (10%) were lost for follow-up. In the LF group, ten patients (19.2%) were lost for follow-up. The recurrence rate in the PNF group was 85%. Recurrence occurred after a mean of 2.3 years. Of the recurrences, nine were treated by LF, 25 by PNF and 12 patients chose not to undergo secondary treatment. The recurrence rate in the LF group was 23.8%. Recurrences occurred after a mean of 3.7 years. One patient had extension (2.4%). Of the recurrences, four were treated by PNF, the remaining six chose not to undergo secondary treatment. The recurrence rate of PNF was statistically higher than that of LF ($p = 0.00$). The mean time to recurrence of PNF was much shorter than that of LF, $p = 0.01$.

Conclusions: Recurrences are far more frequent and occur sooner after PNF. Most patients who underwent PNF were nevertheless satisfied with the result and chose to undergo it again.

15:27 Discussion

15:30 Immediate Great Toe Transfer for Reconstruction of Non-resectable Thumb Tumours

Dr R Kovachevich, Dr J L Giuffre, Dr Y Shin, Dr A T Bishop (Rochester)

Hypothesis: Options for surgical resection and subsequent reconstruction of non-resectable tumours of the thumb are limited. The purpose of this study was to determine the results of immediate great toe-to-thumb transfer in a small cohort of patients with these difficult reconstructive dilemmas.

Materials and Methods: Between 2000 and 2009, three patients with non-resectable tumours of the thumb were identified. All patients underwent immediate trimmed great toe-to-thumb transfer with microvascular anastomosis after wide margin surgical resection. Clinical results of these thumb reconstructions were evaluated retrospectively, documenting peri-operative complications, donor-site morbidity, objective functional outcomes and subjective patient satisfaction.

Results: All patients were found to have non-resectable, locally aggressive benign ($n=1$) or malignant ($n=2$) tumours of the thumb. All underwent acute thumb amputation with intra-operative frozen-section pathology confirming negative tumour margins and subsequent immediate thumb reconstruction. Initial hospitalisation ranged from three to five days. No peri-operative complications or reoperations were encountered, with all microvascular reconstructions remaining viable. Thumb opposition to the small finger and protective sensation was achieved in all patients. The cohort contained a manual labourer and two farmers who were all able to return to their respective occupations with no significant functional limitations. No incidence of tumour recurrence has been noted. Complications included partial donor site wound breakdown in all three patients, responding to wet-dry dressing changes and short-course antibiotic therapy in two and full-thickness skin grafting in one. All patients were satisfied with their reconstruction.

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Summary points: Study findings include:

- * Use of the immediate great toe-to-thumb transfer can be a safe and reliable reconstructive procedure to allow return of near normal hand function.
- * Immediate reconstruction is technically straightforward, due to fresh, unshortened tissues and easily identifiable neurovascular structures free of surrounding scar.
- * These transfers allow for a cosmetic reconstruction that potentially also provides psychological, rehabilitation and economic advantages.
- * Donor site morbidity was low, with minimal functional deficit post-operatively.
- * This procedure is technically demanding with considerable risk and careful patient education, consent and counselling are paramount to attaining good results.

15:37 Discussion

15:40 **The Evolution of the Perception of the Carpal Ligaments**

Mr A Watts, Professor J Stanley (Wrightington)

Introduction: Taleisnik is quoted as stating, “the anatomy of the human body does not change, only our descriptions of the anatomy change”. Understanding the ligamentous anatomy of the carpus is central to our appreciation of wrist biomechanics and pathology and must form the basis of therapeutic surgical intervention.

Materials and Methods: This study explores the descriptions of carpal ligament anatomy from some of the earliest work published by Vesalius in “De humani corporis fabrica libri septem” in 1543, up to the present day, including the works of Gray, Berger and many others.

Results: As our understanding of the biomechanics of the wrist improves, so our perception of the role of the wrist ligaments evolves. The detailed observations of our forebears underpin much of the current understanding of the gross anatomy but the temptation to simplify the human body into a common anatomy can be challenged with increasing evidence that there are substantial variations between individuals in osseo-ligamentous anatomy, biomechanics and pathology. New evidence suggests that more than being just structures that simply “bind” bones together, the carpal ligaments have an important role in proprioception.

Conclusion: While human anatomy has not changed, our knowledge of how the human musculoskeletal system functions has grown substantially.

15:47 Discussion

15:50 **Anatomic PIPJ Replacements: A Comparison of the Avanta and Ascension Implants**

Miss C Langley, Mr J Hobby (Portsmouth)

Introduction: Proximal interphalangeal joint replacement has become increasingly popular. There is little published clinical data. We present our initial experience with the Avanta SR and Ascension® Pyro-carbon PIP joint replacements.

Methods: Between 2002 and 2008 we treated thirty-eight PIP joints in 21 patients, (21 Avanta and 17 Ascension). Patients have been prospectively followed, including: range of movement, radiographs, outcome scores and patient satisfaction. The mean age at surgery was sixty-one years and the average follow-up is 28 months.

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Results: Almost all patients report relief of pain and the majority of the patients are satisfied with the results of surgery. Overall, patients have shown a modest improvement in range of joint movement. Avanta patients have improved arc of movement of 7°, Ascension have an improved arc of 13.5°. Four Avanta implants have been revised (2 revision joint replacements and 2 fusions), and there have been three other re-operations of Avanta implants for stiffness. None of the Ascension implants have been revised to date, but two dislocations have required closed reduction, and one extensor tenolysis for stiffness. In our hands, the Ascension implant appears to perform better than the Avanta, but the numbers are too small for the observed differences to reach statistical significance.

Implant	Avanta	Ascension	Total
Number	21	17	38
Dislocation	2	2	4 (11%)
Tenolysis	3	1	3 (8%)
Loosening	2	0	2 (5%)
Revised	4	0	2 (5%)
Total Re-operations	7	3	10 (24%)

Conclusions: We have found this to be a technically demanding procedure and have experienced difficulty with dislocation, stiffness and implant migration in some patients. Overall we have found our mid-term results to be acceptable, and believe this gives better functional results than arthrodesis of the PIPJ. We intend to continue with this technique, but believe the patients must be kept under review.

15:57 Discussion

16:00 **Anatomic PIPJ Replacements: Three to Five Year Outcome from Three Centres**
Miss C Langley, Mr E Powell-Smith, Mr J Hobby, Mr I Lowden, Miss S Phillips (Portsmouth)

Introduction: Proximal interphalangeal joint replacement has become increasingly popular over the last five years. There is very little clinical data available, apart from small studies from the originators of the prostheses. We present a review of our three to five year experience with the Ascension® Pyro-carbon PIP joint replacement.

Methods: Between 2002 and 2006 we treated thirty-six PIP joints in 20 patients, using the Ascension® implant. We have collated post-operative data, including plain radiographs and Quickdash scores. Patients have been recalled for independent clinical and radiographic review, including range of movement, QuickDASH and PEM scores, patient satisfaction and grip strength.

Results: The mean age at time of surgery was sixty-one years. The mean follow-up is forty-nine months (range 36-60 months). The indication for surgery was OA in twenty-one of the digits, inflammatory in 14 digits and traumatic in one. The pre-operative data is incomplete. Six weeks post-operatively the mean arc of motion was 79° (5° - 84°). The current mean arc of motion is 70° (5° - 75°). This is not a significant difference. There have been seven (19.4%) re-operations, consisting of two closed reductions, two tenolysis, two revisions and one fusion. One patient stated they would not want the surgery again and one patient has now had all PIP joints replaced. The functional results were favourable at the three to five year follow-up, only one patient complained of occasional pain.

Conclusions: We have found this to be a technically demanding procedure. Functionally the results are good in the medium term. The ROM is retained and the patients remain pain free.

16:07 Discussion

FRIDAY, 23 APRIL**16:10 Arthrodesis of the Trapezium-Metacarpal Joint (TMCJ) in the Treatment of Rizarthrosis**
Dr S Vidal Rodriguez, Dr J de Haro Monreal (Madrid)

Aims: To analyse the medium- to long-term results for arthrodesis of the TMCJ as a surgical technique used in the treatment of rizarthrosis.

Material and Methods: The digital medical records of patients diagnosed with rizarthrosis between January 2003 and September 2008 were reviewed. A data collection file was opened, containing: personal information, professional activity, complications, progress, results.

Results: Two-hundred and fifty-one patients diagnosed with rizarthrosis between January 2003 and September 2008 underwent 280 arthrodesis of the TMCJ procedures. In twenty-nine cases the procedure was bilateral. One hundred and seventy-nine were female and 72 were male. Functional demand: manual workers ninety-eight, workers with low functional demand 153. Arthrodesis of the TMCJ was carried out through the interposition of an autologous corticocancellous bone graft obtained from the contralateral pelvic brim. The graft was fixed in place using Kirschner needles. The same post-operative protocol was observed in all patients. X-rays were taken 1.5, 4-6 and 12 months after the surgery. Progress was monitored in terms of the range of movement, complications, pain and rehabilitation in the workplace.

Discussion and Conclusion: Rizarthrosis causes degeneration of the TMCJ. Rizarthrosis is currently considered as the arthrosis of the upper limbs that leads to the highest number of surgical interventions. In our experience, arthrodesis of the TMCJ is useful in the treatment of rizarthrosis. The good medium- to long-term results have led us to consider it to be the standard technique in the surgical treatment of rizarthrosis solely affecting the TMCJ.

16:17 Discussion**16:20 Long-term Outcomes of Osseointegrated Digital Protheses**
Mr A Sierakowski, Mrs C Watts, Mr K Thomas, Mr D Elliot (Chelmsford)

Introduction: We present long-term outcomes of three finger amputees treated with osseointegrated digital protheses.

Methods: Three patients were assessed after thirteen, five, and four years. The first was fitted with protheses to the index and middle fingers at the PIP level. The second had all four fingers of one hand replaced at the PIP level, but only three protheses were retained to the time of assessment. The third had a thumb prosthesis fitted at the MCP level. Outcome with respect to appearance, function, frequency of use and pain were assessed subjectively. Function was quantified objectively using the Jebson-Taylor and Moberg pick-up tests, Grip/Pinch Strengths, Semmes-Weinstein Monofilaments and Vibrating Tuning Forks.

Results: All patients scored their reconstructed hand highly in terms of appearance and frequency of use. The first and third patients, surprisingly, rated the function of the reconstructed hand as similar to the normal hand, and this was confirmed by the Jebson-Taylor test. They used the protheses for cosmetic and functional reasons. The second patient had poor function and mostly used the protheses for cosmetic purposes. All three experienced some degree of pain related to the implants. Grip and pinch strengths were weaker in all three reconstructed hands. All patients could detect pressure and vibration through their protheses.

Conclusions: This study, which is the longest follow-up in the literature of this reconstructive technique, identifies osseointegration as an acceptable and stable long-term reconstruction of traumatically amputated digits. The cosmetic result is generally excellent and function is good in selected patients.

FRIDAY, 23 APRIL**References:**

Lundborg, G., Branemark, P. I., et al (1996). "Osseointegrated thumb prostheses: A concept for fixation of digit prosthetic devices." *J Hand Surg Am* 21 (2): 216-221

Manurangsee, P., Isariyawut, C., et al (2000). "Osseointegrated finger prosthesis: An alternative method for finger reconstruction." *J Hand Surg Am* 25 (1): 86-92

Doppen, P., Solomons, M., et al (2009). "Osseointegrated finger prostheses." *J Hand Surg Eur Vol* 34 (1): 29-34

16:27 Discussion

16:30 Distal Radius Fractures - An Epidemiological Review

Dr K Koo, Dr D Tan, Dr A Chong (Singapore)

Introduction: Distal radius fractures are among the commonest upper extremity injuries. However, there is little detailed epidemiologic data available. Such information would help direct prevention efforts and guide treatment protocols.

Methods: All patients seen in our department between November 2008 to May 2009 with a diagnosis of a distal radius fracture underwent a chart review. Patient biodata was captured. The fractures were classified according to the AO classification. Associated injuries to the wrist, hand and other injuries and treatment modes were recorded.

Results: In this period, a total of four hundred and thirty-one distal radius fractures in 419 patients were seen. In our patient population, distal radius fractures were seen across all age groups, peaking at ages 50-60 years. The pattern of incidence followed a bell curve rather than the more popularly described bimodal distribution. Breakdown of the age histogram by sex showed that males tend to sustain these fractures at a younger age. Based on the AO classification, 53% were type A, 13% were type B and 32% were type C. Associated injuries to the ipsilateral wrist, hand and proximal limb injuries were seen in 5.6% of patients. The mechanism of injury correlated well with the fracture severity (via AO classification). Fracture severity, in turn, correlated well with the likelihood of surgical fixation.

Conclusion: Distal radius fractures occur in all age groups, with the peak incidence varying according to sex. The mechanism of injury correlated well with the AO classification which in turn correlated well with the chance of surgical fixation.

16:37 Discussion

16:40 Does the DVR Plate Recreate Normal Anatomy following Fractures of the Distal Radius?

Dr P Menéndez, Mr S Patel, Mr H Colaco, Mr F Hossain, Mr E Sorene, Miss E Taylor, Mr M Lee (London)

Introduction: There is an increasing trend to manage distal radius fractures with locking plate fixation. Our institution employs the DVR plate (Hand Innovations) for all adult patients with unstable or malreduced fractures unless contraindicated, not fit for anaesthesia or deemed unlikely to regain sufficient function post-surgery. The purpose of this study is to evaluate whether this implant can recreate normal bony anatomy.

Methods: The patient cohort comprised of those admitted over a twelve-month period for open reduction and internal fixation of an unstable or malreduced distal radius. Standardised AP and lateral radiographs were used to assess volar tilt (VT), radial inclination (RI) and radial length (RL) following surgery. Statistical analysis was used to evaluate the difference between radiological outcomes with 'normal' values and whether the grade of operating surgeon affected this.

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Results: Forty-eight eligible patients were identified with eight fracture patterns. The mean VT was 8.8° (p = 0.007), RI was 21.1° (p < 0.001) and RL was 11.1mm (p = 0.001). The operation was performed by a consultant in nineteen cases, registrar with consultant supervision in four cases and registrar independently in 25 cases. The grade of operating surgeon did not affect radiological parameters (VT: p = 0.28, RI: p = 0.63, RL: p = 0.17).

Conclusions: The DVR plate is able to restore bony anatomy within published, acceptable limits although it does not recreate the 'normal' uninjured position. The implant can be used by surgeons of varying experience without compromising the anatomical reduction achieved.

16:47 Discussion

16:50 **Outcome of Trapeziectomy in Patients with Hyperextension of the Metacarpophalangeal Joint**
Mr R Poulter, Professor T Davis (Nottingham)

Introduction and Aims: Does intervention at the hyperextended metacarpophalangeal (MCP) joint improve outcome in those patients undergoing trapeziectomy?

Material and Methods: Three hundred patients undergoing trapeziectomy for osteoarthritis were prospectively recruited, in two cohorts. Some, but not all, with more than 30° MCP hyperextension underwent MCP capsulodesis or fusion. All patients were assessed pre-operatively and post-operatively at one year for grip & pinch strengths with calibrated Jamar grip & pinch dynamometers. Those in the second cohort (127 patients) were also assessed using the Disabilities of the Arm, Shoulder and Hand questionnaire (DASH), and the Patient Evaluation Measure (PEM) questionnaire.

Results: There was no significant difference in any of the outcome measures between those patients with no MCP hyperextension (n=109) and those with MCP hyperextension of 5-30° which was not treated (n=132). Capsulodesis (n=15) reduced the MCP hyperextension deformity by 28° and MCP fusion (n= 3) by 43°. However, these corrections did not result in better outcomes than those obtained in patients with untreated MCP hyperextension deformities of more than 30° (n=33).

Conclusions and Clinical Relevance: MCP hyperextension deformities of up to 30° do not need to be addressed at surgery, and do not adversely affect the clinical outcome after trapeziectomy. MCP hyperextension deformities of >30° MCP hyperextension can be improved by capsulodesis, but this was not shown to improve the clinical outcome.

16:57 Discussion

17:00 **The Evolving Practice of Flexor Tendon Management in a Tertiary Hand Centre: Lessons Learnt through Repeated Audit**
Mr J Wong, Miss E Cotterall, Mrs F Peck, Miss L Highton, Miss V Lees, Mr S Wilson,
Mr S Watson (Manchester)

Introduction: We present a single tertiary referral centre's experience of managing acute zone two flexor tendon injuries and how the implementation of four key strategies has improved patient outcomes.

Methods: We reviewed flexor tendon repairs from 1997 to 2009 and looked at the impact of hand therapist-led clinics, consultant-led trauma lists, training days and four strand core repairs with epitendinous suturing on outcomes of acute flexor tendon injury.

Results: In 1997 using two strand repairs and controlled active mobilisation, we demonstrated rupture rates of 30%. Hand therapist-led clinics and consultant-led trauma lists were implemented in 2001. An audit of this implemented strategy showed that rupture rates dropped to 17%. In 2004 the evolving practice of two-strand to four-strand repairs showed a reduction in rupture rates from 20% to 6%. In 2005 the policy of four-strand repairs for all patients was adopted, along with the introduction of consultant-led training days. In 2006, a re-audit of tendon repairs demonstrated a 0% rupture rate and poor modified

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Strickland score in 24% of patients. A re-audit in 2009 shows rupture rates of 5% and a poor modified Strickland score in 42% of patients, secondary to increased time waiting for surgery (mean 8.38 days versus 4.46 days).

Conclusion: We have demonstrated that the implementation of four key strategies can have a significant impact on acute flexor tendon care, however, prolonged time to surgery has a significant impact on functional outcome secondary to biological changes which are not yet understood.

17:07 Discussion

17:10 Close of Meeting

17:10 Coaches from Wythenshawe Hospital to the Premier Inn, Manchester Airport

MEETING INFORMATION**REGISTRATION FEES**

IMPORTANT NOTICE: Doctors or scientists engaged in research AND presenting a paper will not be charged a registration fee for the day they are presenting if they can confirm in writing that they have no access to study leave expenses. They must however pay £60.00 per day. This is the day delegate rate charged to the Society by the venue for each individual attending.

Exemption from payment of registration fees is not available to those who have access to study leave. If all study leave for the year has been utilised, full registration fees must be paid.

	Registration fees	
Full / Overseas / Associate Member and Other	£350.00	Whole meeting
	£185.00	One day
Trainees, (UK only)	£200.00	Whole meeting
Companion Members	£100.00	One day
Honorary, Senior Members Speakers who are Research Doctors or Scientists	£60.00	Per day

Reduced Registration Fees

The Council of the Society agreed that Members and Associates who attended the whole of the 2009 Spring Scientific Meeting in London (Combined ASSH/BSSH Meeting), and did NOT attend the 2009 Autumn Scientific Meeting in Nottingham will receive a reduced registration fee for the 2010 Spring Scientific Meeting in Manchester, if they attend the whole of the meeting.

The agreed reductions are:

Full Members and Associate Members (Consultants):	£200.00
Associate Members (Trainees) and Overseas Members:	£100.00

Please note, however, only Members and Associates who register for and attend the whole meeting are eligible for the reduced registration fees.

REGISTRATION AND ENQUIRY DESK

The Registration and Enquiry Desk, (situated in the Atrium of the Education & Research Centre) will be open at the following times:-

Thursday	07:30 – 19:00
Friday	07:30 – 17:00

The telephone number of the Registration and Enquiry Desk during the Meeting is: 07900 303 511 (BSSH mobile telephone number).

HONORARY AND SENIOR MEMBERS

Honorary and Senior Members will not pay a registration fee. A charge of £60.00 will be made for refreshments and luncheon each day. This is the day delegate rate charged to us by the venue for each delegate.

VENUE OF SCIENTIFIC MEETING

The meeting will be held in Lecture Theatre 1 of the Education & Research Centre.
The Ultra Sound Training will take place in Seminar Rooms 4 & 7.

CONTRIBUTORS INFORMATION

Projection Facilities

Projection of presentations will be by Power Point only. The AV will be provided by the in-house AV Department.

SPEAKERS ARE ASKED TO KEEP STRICTLY TO THE TIME ALLOCATED FOR THEIR PRESENTATION.

MEDICAL AND TECHNICAL EXHIBITION

Firms supplying instruments, appliances, materials and books will be exhibiting throughout the two days in the Atrium, where refreshments will be taken. It is hoped that everyone will support this exhibition.

SOCIETY DINNER

There will be no formal Dinner at this meeting. An informal buffet dinner will be held in the Atrium of the Education & Research Centre at 19:10. This will be followed by an evening with Professor J K Stanley in Lecture Theatre 1 at 20:30. The deadline for purchase of dinner tickets was 9 April 2010.

LUNCHEON

Luncheon will be served in the Atrium of the Education & Research Centre.

BUSINESS MEETING

The meeting which is open to members and associates only will be held on Thursday, 22 April at 13:00 in the Lecture Theatre 1.

CAR PARKING

Delegates can park free of charge in the hospital staff car park. However, parking spaces are limited and delegates are encouraged to use the free coaches provided. Delegates wishing to park in the hospital staff car park have to fill out a parking permit and leave it clearly visible in the windscreen of their car. Failure to display the permit will result in a penalty charge notice being issued.

TRANSPORT

The nearest hotels are at Manchester Airport, which is approximately 2½ miles from Wythenshawe Hospital. Free coach transport will be provided at the following times:

Thursday, 22 April:	07:15	Premier Inn to Wythenshawe Hospital
	19:10	Wythenshawe Hospital to Premier Inn (for those delegates not wishing to attend the dinner)
	22:00	Wythenshawe Hospital to Premier Inn
Friday, 23 April:	07:15	Premier Inn to Wythenshawe Hospital
	17:10	Wythenshawe Hospital to Premier Inn or to Manchester Airport

MEETING INFORMATION**HOTELS**

A block booking had been made with:

Premier Inn Manchester Airport (Freight Terminal)

Runger Lane
Wilmslow Road
Manchester M90 5DL
Website: www.premierinn.com

The bed & breakfast rate for conference delegates is £42.45, based on single occupancy. Car parking: £5.00 per day.

To book accommodation, please speak to Helen Giddings or Joanna Partington on Tel: 0870 423 6464 and quote reference **YOR3025**.

All unsold rooms were released on 21 March 2010. Room availability and rates cannot be guaranteed.

Other Hotels at Manchester Airport:**Travelodge Manchester Airport**

Runger Lane
Manchester M90 5DL
Telephone: 0871 984 6181
Fax: 0161 903 8971
Website: www.travelodge.co.uk

Radisson SAS Hotel Manchester Airport

Chicago Avenue
Manchester M90 3RA
Telephone: 0161 490 5000
Fax: 0161 490 5100
Website: www.radissonblu.com

Bewley's Hotel Manchester Airport

Outwood Lane
Manchester M90 4HL
Telephone: 0161 498 1390
Fax: 0161 498 0222
Email: manchesterairport@bewleyshotels.com
Website: www.bewleyshotels.com

FUTURE MEETINGS – 2010

1 October – Combined Meeting with the Italian Society for Surgery of the Hand, Savona, Italy

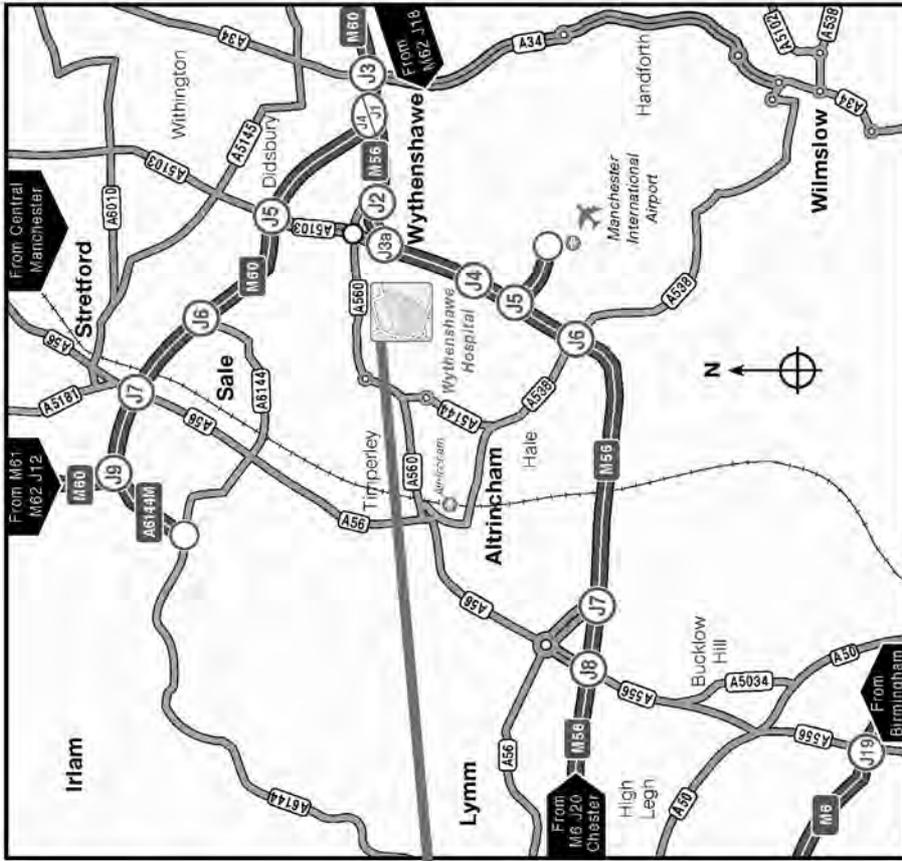
11-12 November – Royal College of Surgeons, London (Combined with BAHT)

CONTINUING MEDICAL EDUCATION

The following number of points have been awarded for each day:-

Thursday: 10.5 Friday: 7.5 Total: 18.0

LOCATION MAP

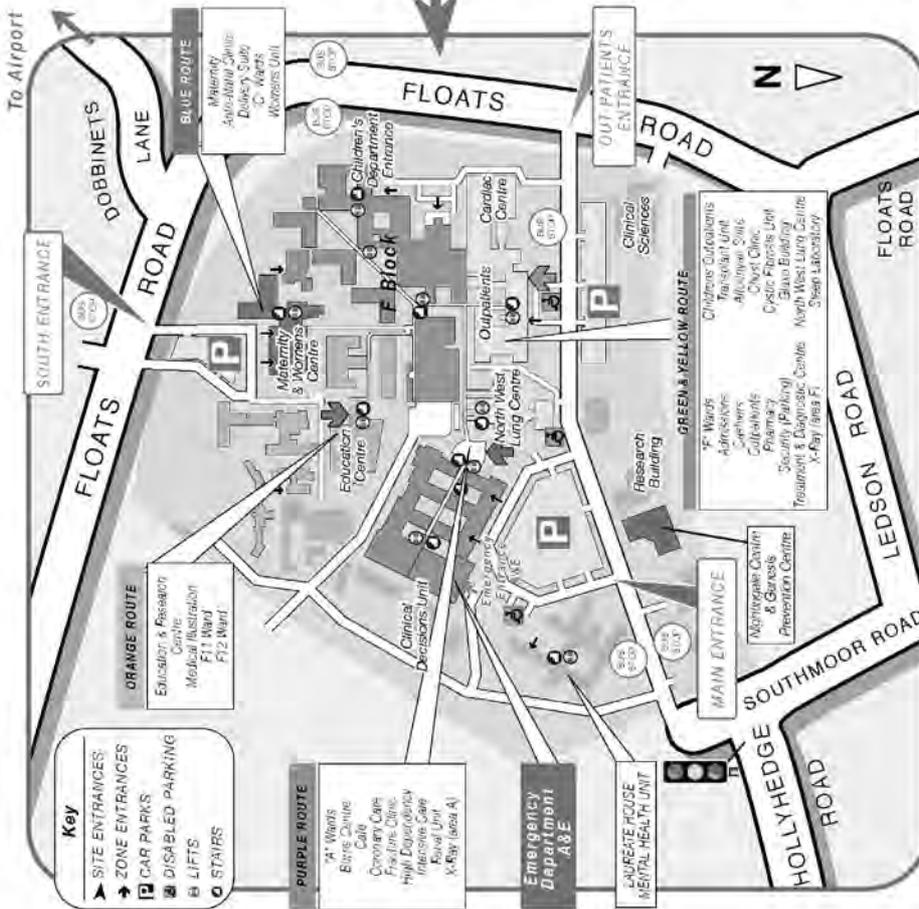


From the East - M60
 Leave the M60 at junction 4 and join the M56. Leave the M56 at junction 2 and take the second exit at the roundabout onto the A560 towards Altrincham. Continue ahead over the next two roundabouts. After 1 mile turn left into Southmoor Road and continue to follow this until you reach the Hospital.

From the North & West - M60
 Leave the M60 at junction 5 and head south on the A5103. Take the slip road exit at junction 3a of the M56, taking the third exit at the roundabout to join the A560 towards Altrincham. After 1 mile turn left into Southmoor Road and continue to follow this until you reach the Hospital.

By Train
 Altrincham is the nearest railway station. Manchester Airport also has a station. The Hospital is a short taxi ride from either station. For further train service information, please telephone the National Rail Enquiry Line on 08457 48 49 50.

By Bus
 The following buses include Wythenshawe Hospital in their route: 11, 19/19A, 19B/19/c, 84, 104, 109, 177, 178, 179, 196, 276, 368. Call GMPTE on 0161 228 7811, or visit www.gmppte.com for bus times.



NHS
University Hospital of South Manchester
 NHS Foundation Trust

Wythenshawe Hospital
 Southmoor Road
 Wythenshawe
 Manchester M23 9LT
 Tel: 0161 998 7070

TRADE EXHIBITORS

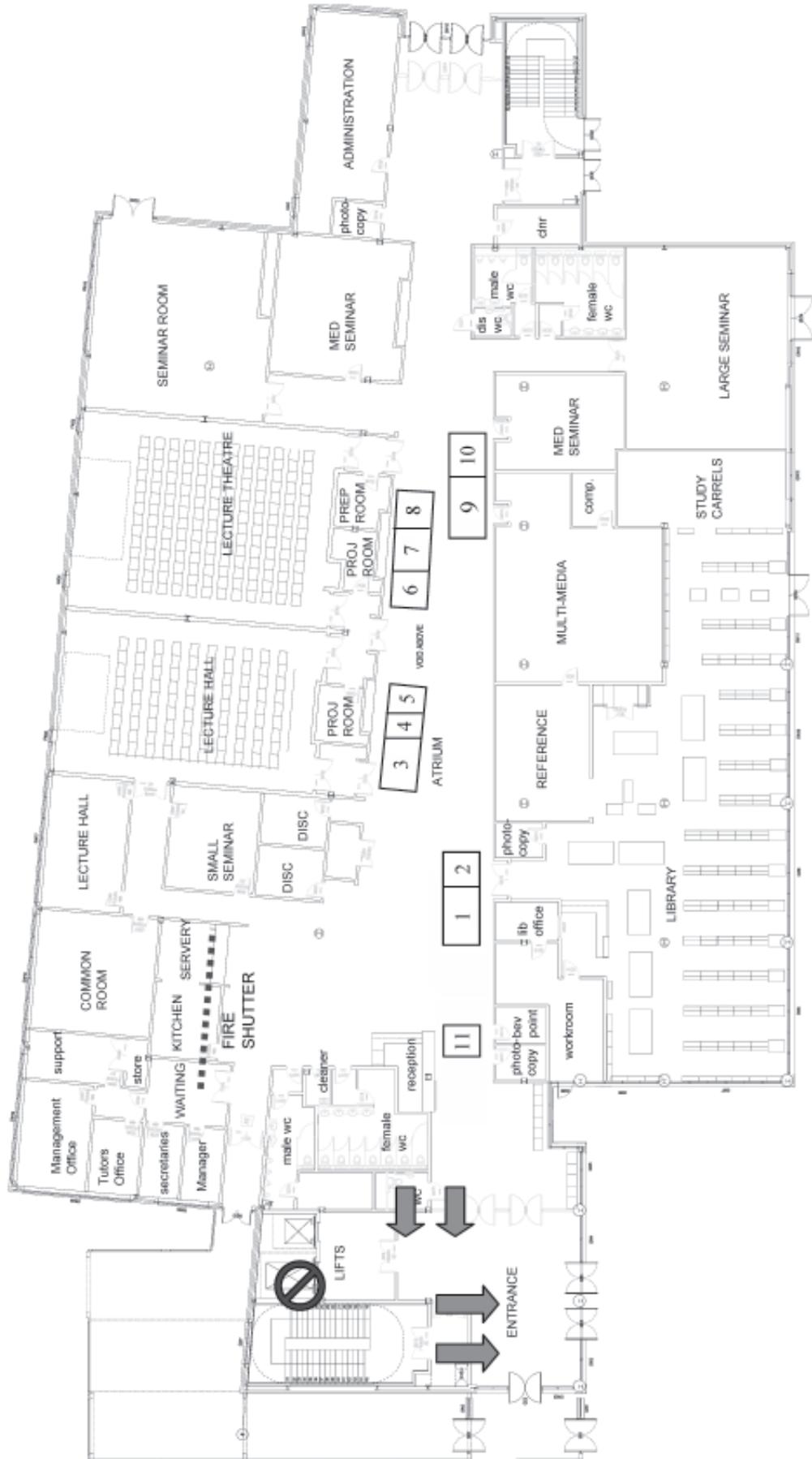
ACUMED LTD Huebner House, The Fairground, Weyhill, Andover, Hampshire SP11 0QN Telephone: 01264 774 450, Fax: 01264 774 477, E-mail: bob@acumed.uk.com Contact: Mr R Craddock	STAND NO 9
ALBERT WAESCHLE LTD 11 Balena Close, Creekmore, Poole BH17 7DX Telephone: 01202 601 177, Fax: 01202 650 022, E-mail: roger@albertwaeschle.com Contact: Mrs B Warmington	STAND NO 8
BVM SURGICAL Suite 442, Andover House, George Yard, High Street, Andover, Hampshire SP10 1PB Telephone: 0844 443 8604, E-mail: colin.lloyd12@btinternet.com Contact: Mr C Lloyd	STAND NO 11
CARL ZEISS LTD Woodfield Road, Welwyn Garden City, Hertfordshire AL7 7LU Telephone: 01707 871 231, Fax: 01707 871 287, E-mail: k.flavelle@zeiss.co.uk Contact: Ms K Flavelle	STAND NO 2
DEPUY UK Capitol Park, Capitol Boulevard, Leeds LS27 0TS Telephone: 07920 594 632, E-mail: lnewman3@its.jnj.com Contact: Ms L Newman	STAND NO 10
KARL STORZ ENDOSCOPY (UK) LTD 392 Edinburgh Avenue, Slough SL1 4UF Telephone: 01753 503 500, Fax: 01753 578 124, E-mail: sanderson@karlstorz.uk.com Contact: Mr S Anderson	STAND NO 7
MEDARTIS LTD Suite 63, Annexe 4, Batley Business Park, Technology Drive, Batley, West Yorkshire WF17 6ER Telephone: 01924 476 699, Fax: 01924 472 000, E-mail: anna.walsh@medartis.com Contact: Mrs A Walsh	STAND NO 1
NORTHSTAR ORTHOPAEDICS Northstar House, 26 Kingfisher Court, Hambridge Road, Newbury RG14 5ST Telephone: 01635 275 380, Fax: 01635 275 381, E-mail: Richard@northstar-ortho.co.uk Contact: Mr R Forster	STAND NO 4
OSTEOTEC LIMITED 9 Silver Business Park, Airfield Way, Christchurch, Dorset BH23 3TA Telephone: 01202 487 885, Fax: 01202 487 886, E-mail: Samantha@osteotec.co.uk Contact: Ms S Glendenning	STAND NO 3
TRB CHEMEDICA (UK) LTD Med IC3, Keele University Science Park, Keele, Staffs ST5 5NP Telephone: 0845 330 7556, Fax: 0845 330 7557, E-mail: dorothea@trbchemica.co.uk Contact: Ms D Alessi	STAND NO 5
VERTEC SCIENTIFIC LTD 5 Comet House, Aldermaston, Reading RG7 8JA Telephone: 01189 817 431, Fax: 01189 817 785, E-mail: nviccars@vertec.co.uk Contact: Mr K Lakin	STAND NO 6

**EDUCATION & RESEARCH CENTRE – WYTHENSHAW HOSPITAL
FLOOR PLAN (NOT TO SCALE)**

1. Medartis Ltd
2. Carl Zeiss Ltd
3. Osteotec Ltd
4. Northstar Orthopaedic
5. TRB Chemedica (UK) Ltd

6. Vertec Scientific Ltd
7. Karl Storz Endoscopy (UK) Ltd
8. Albert Waeschle Ltd
9. Acumed Ltd
10. DePuy UK
11. BVM Surgical

VENUE FLOOR PLAN



at The Royal College of Surgeons 35-43 Lincoln's Inn Fields London WC2A 3PE
Telephone: 020 7831 5161 Fax: 020 7831 4041
Email: secretariat@bssh.ac.uk Web: <http://www.bssh.ac.uk>