Conclusions: The Latarjet procedure is an effective operation in treating anterior shoulder instability, reducing pain, improving function and aiding return to sports.

0452: PATIENT SATISFACTION AUDIT COMPARING OPEN VERSUS MINIMALLY INVASIVE 1ST METATARSOPHALANGEAL JOINT (MTPJ) FUSION
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Introduction: Fusion is a proven treatment for symptomatic osteoarthritis of the 1st metatarsophalangeal joint (MTPJ). With rising popularity of minimally invasive surgery (MIS), particularly in foot and ankle surgery, 1st MTPJ fusion is now being performed using MIS techniques. We assessed patient satisfaction in MIS fusion compared to patients who underwent open surgery.
Method: We assessed post-operation patient experience using a questionnaire containing six questions covering post-operative pain, swelling, mobility status, complications and patient satisfaction. Using our foot and ankle service database, we identified our cohort of patients who had 1st MTPJ fusion between 2009-2012, including 12 minimally invasive fusion and 12 open fusions.
Results: We were unable to demonstrate a statistically significant difference in “patient experience” between MIS and open 1st MTPJ fusion. The MIS fusion group however reported less immediate post-operative discomfort compared with the open fusion group. The MIS fusion patients were able to mobilise sooner without significant discomfort compared to the open surgery group.
Conclusion: Patient satisfaction in the MIS 1st MTPJ fusion group, if not superior appears to be comparable with those who underwent open surgery with the added advantage of shorter operating times, reduced hospital stay and decreased risk of surgical exposure related complications.

0454: THE RECOVERY OF KNEE FUNCTION IN THE ISOLATED MCL AND COMBINED ACL-MCL DEFICIENT KNEE
Aim: To analyse recovery of knee motion and muscle function over one year in the isolated MCL and combined ACL-MCL deficient knee.
Method: Subjects included had either an isolated MCL (group I) or combined ACL-MCL injury (group II) seen at knee injury clinic between 2006-2010. Exclusion criteria included previous MCL injury, contralateral limb injury and presentation >2 weeks of injury. Patients were followed up at 2, 6, 12, 26, 52weeks. A t-test was used to analyse data using Graphpad Prism.
Results: The cohort included 82 patients, mean age 32 (range 16-56), 54 males, 28 females. There was a statistically significant deficit in total range of movement (TROM) and flexion at 6months (<0.05) in group II. This resolved by 1 year. There was a significant extension deficit in Group II at 2 weeks (~0.05). Peak torque deficit (PTD) improved for quadriceps and hamstrings across all intervals however this was not significant. There was no significance for average power deficit (APD) in hamstrings and quadriceps groups.
Conclusions: There is an increased TROM and flexion deficit at 6 months in group II subjects compared to group I. This resolved by 1 year follow up. There was no difference in PTD or APD in either group.

0545: THE DISAPPEARING HUMERUS: THE EXPERIENCE OF A DGH IN TREATING PATHOLOGICAL HUMERAL FRACTURES USING THE T2 PROXIMAL HUMERAL NAIL
Eftihios Gerakopoulos, Sarah Affy, Sophie West, John Hambidge. Queen’s Hospital, London, UK.
Aim: Skeletal metastasis occurs at an advanced stage of many cancers and lesions affecting the humerus account for between 16-39% of appendicular skeletal metastases. Patients with pathological fractures secondary to metastatic carcinoma have limited life expectancy. Operative intervention is focused on achieving immediate pain relief, increasing mobility and easing nursing care with minimal additional morbidity. The closed interlocking intramedullary humeral nailing is associated with minimal morbidity and low failure. The T2-proximal humeral nail (PHN) has been recently released and the literature lacks series evaluating its results.
Method: We are describing the case histories and imaging of seven cases of pathological fractures of the humerus treated using the T2(PHN) since January 2011.
Results — Conclusions: Long-term survival of patients after their first pathological fracture has tripled during the past 25 years, increasing the need for efficient surgical intervention. Our series show, that all patients gained short term pain relief, and the fixation, analgesic effects and positive functional outcome had long lasting effects even when the bone stock around the nail continued to be destroyed by the underlying disease process. T2(PHN) is a suitable treatment for pathological fractures of the humerus and has both short term and longer term benefits to patients.

0541: THE AVOIDANCE OF RADIATION EXPOSURE BY FOLLOWING RCR GUIDELINES AND OTTAWA RULES IN PERFORMING ANKLE RADIOGRAPHS
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Background: Ankle radiographs comprise 10% of radiographs obtained from the emergency department (ED). The Royal College of Radiologists (RCR) recommended ankle radiographs for trauma patients whose clinical features fulfil the Ottawa rules, which state that bony ankle injury is likely when tenderness over the posterior tip of either malleolus is present or if the patient is unable to weight bear. The guidelines were introduced to reduce inappropriate ankle radiographs and unjustified radiation exposure.
Methods: We assessed the appropriateness of ankle x-ray requests with respect to RCR recommendations and the Ottawa Rules. 200 consecutive traumatic ankle radiograph requests were reviewed with preset standards of 100%.
Results: 79% of requests emerged from the ED, 18% from general practice and 3% from other departments. 43% of requests did not meet RCR and Ottawa criteria with general practitioners and ED clinicians having 47% and 43% of inappropriate requests respectively.
Conclusion: A large proportion of ankle x-rays are inappropriately requested according to provided clinical information. We aim to improve clinical practice by emphasising RCR guidelines to respected clinicians through oral presentations, educative posters, algorithms and introduction of a proforma. Implemented interventions will be reviewed through a re-audit to confirm efficacy of introduced changes.

0551: CASE SERIES DEMONSTRATING EARLY REHABILITATION AND RETURN TO NORMAL ACTIVITY WHEN RECONSTRUCTING EXTENSOR MECHANISM INJURIES IN THE KNEE USING NEOLIGAMENT™ POLYTAPE
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Introduction: Reconstruction of the extensor mechanism in the knee using standard suture/cerclage techniques require rehabilitation commencing after a period of immobility and resultant stiffness. Polytape reconstructions in the knee and elbow have proven outcomes and quicker rehabilitation. Little evidence relates to the outcomes of Neoligament use in the knee.
Aim: Presenting a case series of our experience in reconstructing the extensor mechanism of the knee using a polytape Neoligaments™ we would like to demonstrate an accelerated functional recovery.
Methods: Prospective data was collected on patients whom underwent extensor mechanism reconstruction using Polytape from 2008-12. A Standardised surgical technique and rehabilitation protocols were used in all cases. All the patients were followed up clinically and outcome assessed using Oxford, Lysholm, Kujala and American knee society scores.
Results: 15 patients were identified during the study (11male:4female) with average age of 55 (32-79). Average follow up was 12months post surgery (2-36months). The group represents 10 patellar and 4 quadriceps ruptures with 1 patella fracture. One Patient suffered Re-rupture secondary to trauma with another experiencing superficial wound infection. Conclusion: Neoligament Polytape is a very useful tool in reconstructing extensor mechanism injuries. It enables early mobilization and early return to work in younger patients.

0553: FRACTURES OF THE DISTAL FEMUR: A RETROSPECTIVE CASE REVIEW
Rory Morrison, Tim Brock, Andrew Gray. Department of Trauma and Orthopaedic Surgery, Royal Victoria Infirmary, Newcastle upon Tyne, UK.
Aim: To review the population characteristics and functional outcomes of patients admitted to a UK Level I trauma centre with distal femoral fractures.

Method: Consecutive adult patients with distal femoral fractures over a 2-year period were retrospectively identified from a local trauma database. Fractures were classified according to the AO system. Barthel Index, Parker Mobility Score and ASA grade were calculated. Mobility at 6-months and mortality at 30-days, 6-months and 1-year were reviewed.

Results: Forty-four adult patients were identified (mean age 71 ± 17 years). Most fractures (68%) were simple (A033-A1), low-energy injuries. Twelve patients had peri-prosthetic fractures. Pre-morbid status was of moderate dependency (mean Barthel Index 74), reduced mobility (Parker Score 5), and associated co-morbidity (ASA 3). Twelve cases were managed conservatively and 32 surgically. The mean length of stay was 27 days. Six-month mobility was reduced compared to admission, and overall mortality at 1-year was 18%.

Conclusion: Most distal femoral fractures are fragility fractures causing a prolonged hospital stay, an appreciable degree of morbidity, and an increase in 1-year mortality rates, similar to proximal femur fractures. We propose the use of an integrated fast-track care pathway for management of these fractures, similar to current fractured neck of femur guidelines.

057: AN INNOVATIVE EXTERNAL FIXATOR FOR THE MANAGEMENT OF TROCHANTERIC FRACTURES OF THE FEMUR. SURGICAL TECHNIQUE AND OUTCOMES OF 200 PATIENTS WITH 24 MONTH FOLLOW UP

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Introduction: Recent studies compared the use of external fixation in trochanteric fractures with conventional methods of fixation such as sliding hip screw. Only elderly patients, who are considered high risk and not suitable for conventional fixation methods, were included in those studies. This is the first prospective study to report the outcomes of external fixation in a larger patient population which includes young and healthy adults.

Methods: 200 patients with intertrochanteric fractures were treated with a newly developed external fixator (AlexFix®). All patients received local anaesthesia in the form of femoral nerve and lateral cutaneous nerve blocks. Patients were followed up for a period of 24 ± 2.1 months.

Results: The average operative time (and standard deviation) was 26.22 ± 5.9 minutes. The average use of radiation intra-operatively was 16.67 ± 3.5 seconds. Hospital stay was short with an average of 4.3 ± 1 days. Blood loss was negligible and none received any blood transfusion.

Conclusion: Our results strongly prove that this method provides a reliable and safe treatment option that offers minimal operative and anaesthetic risks, no blood loss, early mobilisation and a short hospital stay, with low morbidity and mortality.

0560: PATHOGENESIS OF AVULSION FRACTURE OF THE BASE OF 5TH METATARSAL BONE: A CADEVERIC STUDY

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Introduction: Proximal fractures of 5th metatarsal are common. Three different fracture patterns are described; diaphyseal, tuberosity avulsion and Jones fractures. The anatomy of the structures attached to the proximal portion of 5th metatarsal bone was analysed to investigate the potential pathogenesis of avulsion fracture in this region.

Methods: 32 human cadaveric feet were dissected. A longitudinal lateral incision parallel to the plantar aspect of the foot was made and the major ligamentous and tendinous attachments were carefully preserved. Photographic records were taken at all phases of the dissection.

Results: Peroneus brevis tendon had a strong broad-based structure attached to the dorsolateral surface of the tuberosity of 5th metatarsal bone. Fibres of the lateral cord of plantar aponeurosis were seen blending with the fibres of Peroneus brevis tendon and attaching to the tuberosity as a broad and strong structure.

Conclusion: The pathogenesis of avulsion fractures seems to be related to the violent pull of the strong and extensive structure formed by the converging fibres of lateral cord of plantar aponeurosis and the Peroneus brevis tendon. The current consensus that this fracture is caused by the avulsion force of Peroneus brevis tendon alone seems unlikely to be true.

0578: THE ENHANCED RECOVERY PROGRAM FOR HIP AND KNEE REPLACEMENTS—OUR EXPERIENCE

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Aim: The enhanced recovery program for hip and knee replacements (ERP) improves patient care and hospital efficiency. To ensure compliance with the ERP at our local trust, a checklist was introduced containing eighteen objectives, based on recommendations from the ERP guidelines. The subsequent effect on our local trust’s ERP was evaluated.

Method: The checklists and notes of 42 ERP patients between March–April 2012 were reviewed retrospectively and compared to 53 ERP patients admitted in 2010. Our primary outcome measure was length of stay. Secondary measures were checklist completion rates and criteria used for the national database.

Results: The mean length of stay for hip replacement patients has reduced from 7.5 days in 2010 (median 6) to 4.5 days in 2012 (median 4). The mean length of stay for knee replacement has reduced from 6.7 days (median 7) to 4.7 days (median 5). There were improvements in other ERP objectives, including post-op mobilisation. On average, only 40% of each checklist was completed.

Conclusion: Introducing the checklist to our trust has successfully acted to encourage the multidisciplinary team members to adhere to ERP guidelines, reducing length of stay. We continue to seek new measures to further improve other ERP objectives.

0595: ASSESSING THE SUPPORT AND ACCESSIBILITY FOR PRIMARY HEALTH CARE SERVICES BY THE TRAUMA AND ORTHOPAEDIC DEPARTMENT

Rachael Andrews, Adam Smith, Harry Sprot. Royal Gwent Hospital, Newport, UK.

Aim: To assess the efficiency of our current system, and in a concurrent study survey GP satisfaction. We want to provide a supportive service to Primary Care and maintain an efficient trauma service.

Methods: A referral proforma was designed and data collected on referrals made to the unit over a one month period. Admitted patients were followed up for diagnosis and management thereafter.

Results: 44 referrals were recorded. 65% of referrals were accepted for review in the department. The most common indications for referral were possible cauda equina, postoperative complications and infected extremities. Only 25% of referrals were admitted, with the remainder given advice or having a suitable outpatient appointment arranged.

Conclusion: Our results show that a direct admission service is unnessary. We run a system which is supportive to GPs, allows good communication between primary and secondary care and is a good service to patients. Communication between the admitting doctor and the GP is invaluable. This allows specific concerns to be discussed and enables the GP to provide any relevant past medical history attaining to this presentation. In terms of time and cost management in a busy unit, this interaction between primary and secondary care practitioners is vital.

0626: INCIDENCE OF TOTAL HIP REPLACEMENT DISLOCATIONS AND THEIR MANAGEMENT IN A DISTRICT GENERAL HOSPITAL

William Ball, Catriona Heaver, Ralph Perkins. Princess Royal Telford, Telford, UK.

Aims: To establish dislocation rate, source and management, both intermediate and long term of total hip replacement (THR) dislocations presenting to a District General Hospital.

Methods: Retrospective review of 39 consecutive patient notes admitted with dislocated THR between January 2007 and June 2012. These were identified by coding on discharge documents. Data collected included patient demographics, time and site of primary surgery, number of dislocations and management.

Results: THR dislocation rate at our centre was 1.8%. The majority of dislocations admitted to our centre had their index procedure performed here.