

**0290: FINANCIAL IMPLICATION FOR BEING THE NATIONAL CENTRE FOR THE TREATMENT AND MANAGEMENT OF PELVIC AND ACETABULAR FRACTURES IN IRELAND: THE NEED FOR A NEW BUDGET STRATEGY?**

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**Background:** Pelvic and acetabular fractures are complex injuries, typically secondary to road traffic and other high velocity trauma. The treatment and management of these injuries are challenging with significant cost. There is strong evidence suggesting that polytrauma involving pelvic and acetabular fracture are best managed in specialist tertiary units. Our institution is the national centre for treatment and management of these injuries.

**Aim:** To audit all referrals to our institution over a 6-month period and calculate the cost incurred by being the national referral centre.

**Methods:** Retrospective review of a prospective database, and subsequent allocation of Casemix points to assess total cost of treatment for each patient referred to our institution.

**Results:** 103 patients referred with pelvic or acetabular fracture for operative management. The furthest referral being 181 miles away. Over-all length of stay was 15.4 days. The average inclusive cost for a referral to our unit for operative management was €16,302.

**Conclusion:** Pelvic and acetabular fractures are complex injuries requiring specialist care in high volume centres. This study highlights the financial burden of being a national referral unit. Old "fixed" budgeting models are unsustainable. New budgeting models whereby "money follows the patient" would drive productivity and stream-line services.

**0304: ORTHOPAEDIC RESEARCH UK PRIZE WINNER: PILOT STUDY: THE USE OF ANTERIOR ULTRASOUND SCANNING TO ASSESS HIP REDUCTION IN DEVELOPMENTAL DYSPLASIA**

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**Background:** Failure of reduction of dysplastic hips in Pavlik harnesses should be identified early to allow treatment escalation. Graf lateral USS cannot verify reduction in the flexed abducted position of infant hips in a Pavlik harness. Previous research by the authors utilised anterior hip USS to identify the "ischial limb", correlating to the acetabular tri-radiate cartilage. We assessed the application of this in the human DDH population.

**Methods:** We prospectively monitored 50 neonates with 79 dislocated/decentred hips, confirmed through Graf US. Following Pavlik harness application weekly anterior USS determined the concentricity of femoral head reduction relative to the "ischial limb", time to reduction and for failure to achieve reduction.

**Results:** All 50 patients clearly demonstrated an "ischial limb" and its relation to the femoral head. Anterior USS confirmed immediate concentric reduction in 11 patients, and more gradual reduction over 3 wks in 37 patients. Failure to achieve stable reduction was verified in 2 patients.

**Conclusion:** Anterior USS can readily identify femoral head reduction relative to the tri-radiate cartilage in neonatal hips. It efficiently assesses hip reduction during Pavlik harness treatment and can differentiate between failure to achieve reduction or maintain stable reduction at an earlier stage than conventional methods.

**0306: THE RESULTS OF ANTERIOR ULTRASOUND SCANNING IN SURVEILLANCE OF DEVELOPMENTAL DYSPLASIA OF THE HIP**

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**Background:** Lateral ultrasound scanning in surveillance of developmental dysplasia of the hip is well established. It necessitates removal of the limb from an abduction orthosis, risking dislocation in the unstable hip. Anterior USS is undertaken in-situ, and for this reason was introduced locally in 2005.

**Methods:** Data regarding local treatment of DDH was collected prospectively from 1997. Over twelve years 233 patients required treatment; 118 (166 hips) received lateral USS, 115 (160 hips) received lateral and anterior USS surveillance, performed by the senior author.

**Results:** Of the 118 patients in the lateral scanning cohort, 103 (140 hips) were treated successfully, mean duration 66 days (range 10–156), with 15 (26 hips) failing (15.6%), mean duration 30 days (range 7–70). In the

anterior USS cohort, 115 patients, 107 (150 hips) were treated successfully, mean 53.3 days (range 5–105), with 8 (10 hips) failing (6.25%), mean 35.2 (range 8–56). Subgroup analysis of the most unstable hips revealed little difference in treatment duration for Graf 4 hips and a reduced treatment duration using anterior USS for Graf 3, 55.6 days versus 66.3.

**Conclusion:** We believe anterior USS is a useful adjunct in surveillance of unstable hips demonstrated by reduced failure rate and treatment duration.

**0326: 3-YEAR RETROSPECTIVE REVIEW OF POSTOPERATIVE MORTALITY IN HIGH-RISK PATIENTS FOLLOWING CEMENTED VERSUS UNCEMENTED HEMIARTHROPLASTY FOR DISPLACED INTRACAPSULAR FRACTURED NECK OF FEMUR**

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**Aim:** NICE recommends cemented implants in patients undergoing hip hemiarthroplasty surgery, however controversy remains over their use in patients with cardiopulmonary compromise. Our 3-year retrospective study aims to further assess mortality rates of high-risk patients undergoing cemented versus uncemented hemiarthroplasty for displaced, intracapsular fractured neck of femur.

**Method:** 851 patients presenting with a fractured neck of femur requiring hemiarthroplasty to Derriford Hospital 2009–2012, were analysed using the national hip fracture database for ASA grade, age, mobility prior to operation and survival at discharge.

**Results:** Overall mortality rate amongst the 851 patients requiring hemiarthroplasty was 3.6% (n=31), 3.4% (n=25) for cemented hemiarthroplasties and 6.1% (n=6) for uncemented hemiarthroplasties. On sub-analysis patients with ASA grade 4 receiving cemented implants had 13.3% (n=4) mortality in comparison to 0% (n=6) for those receiving uncemented implants. Additionally a high mortality rate of 66.7% (n=2) was identified in patients over 90 years old, with ASA grade 4 and wheelchair bound prior to hemiarthroplasty with cemented implants.

**Conclusion:** Our study further supports evidence that caution is required in considering cemented implants for high-risk patients requiring hip hemiarthroplasty, particularly those with ASA grade 4, over 90 years old and wheelchair bound prior to surgery.

**0395: STUDY OF ROTATOR CUFF PATHOLOGY USING THE HEALTH IMPROVEMENT NETWORK (THIN) DATABASE**

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**Background:** Little is known about the incidence of rotator cuff pathology in the general population. We have undertaken a large study using The Health Improvement Network (THIN) database to examine the epidemiology of rotator cuff pathology in the UK general population.

**Methods:** Diagnoses of rotator cuff pathology between 1987 and 2006 were used to calculate the incidence stratified by age, gender, deprivation score, UK health authority, and year.

**Results:** The incidence of rotator cuff pathology was 0.87 per 1000 person-years. This was more common in women than men (women 0.90, men 0.83 per 1000 person-years,  $p < 0.001$ ). Incidence rates increased over the study period and did not demonstrate any signs of plateau. The highest incidence rate was found in the age group 55–60 years. Regional distribution of the incidence rates showed a fairly even spread across thirteen UK Health Authorities with the exception of Wales where incidence rates were significantly higher. The least deprived areas of the population had the highest incidence rates.

**Conclusions:** Our study represents the largest general population study of rotator cuff pathology reported to date (32,002 subjects). The results obtained provide the clinician with a better understanding of the epidemiology of rotator cuff pathology in the community

**0397: A COMPARISON STUDY OF DIGITAL TEMPLATING METHODS IN TOTAL HIP ARTHROPLASTY**

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**Introduction:** Digital templating is used for preoperative planning in Total Hip Arthroplasty (THA). We compared the measurements obtained by