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General Free Papers
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IS DAY CASE HIP AND KNEE REPLACEMENT SURGERY FEASIBLE WITHIN THE NHS?
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Background: Day case hip and knee replacement surgery is proven to be safe and effective across several different healthcare systems, yet it is not routinely performed in the UK. Our aim was to study the outcomes of performing hip and knee replacement surgery with same day discharge in the NHS.

Methods: One hundred and two joint replacements (99 patients) were performed including 57 total hip replacements, 43 total knee replacements and two unicompartmental knee replacements. Patients were eligible if they were in reasonable health, had uncomplicated pathology and were willing to undergo same day discharge. Our standardised enhanced recovery protocol includes preoperative education, low-dose spinal anaesthesia, multi-modal analgesia and prompt mobilisation.

Mean age was 62.83 yrs (25.65 - 82.47) and mean length of surgery was 66.3 minutes (31 - 156). Either a posterior (84.2%) or lateral (15.6%) approach was used for hips. A medial parapatellar approach was used for all knees. Implant fixation was cemented (78.9%) or hybrid (21.1%) for hips and cemented for all knees. Trainees performed 22 (21.6%) of cases. Mean follow-up was 0.21 years (0.12 - 0.53).

Results: Mean length of stay was 11 hours and 31 minutes (8 hours 21 minutes - 14 hours 37 minutes). Our 30-day readmission rate was 2.9%. No patients were acutely readmitted for pain, nausea or hypotension. Three patients were readmitted due to dislocation, pulmonary embolism and wound leakage. Our complication rate was 3.9%. Four complications occurred including dislocation, pulmonary embolism, knee stiffness and aseptic loosening. Mean postoperative Oxford scores were 40.5 (23 - 48) and 41.7 (25 - 48) points for hips and knees, respectively,

Conclusions: This is the first report of day case hip and knee replacement surgery in the UK and it confirms that it is safe and achievable within the NHS. Standardisation of surgical and anaesthetic methods is important in facilitating early discharge and reducing length of stay.

Disclosure: Nothing to disclose.

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"WORSE THAN DEATH" AND WAITING FOR A JOINT REPLACEMENT
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Background: The EQ-5D is a widely used five-dimension multi-attribute general health questionnaire where an EQ-5D < 0 defines a state worse than death (WTD). The aim of this study was to determine the proportion of patients awaiting hip (THA) or knee arthroplasty (TKA) in a health state WTD, to identify predictors and place these scores in the context of other common chronic conditions.

Methods: A prospective cohort study of 1555 patients undergoing 1555 THAs (mean age 68.0 ± 11.7 (14 - 95); BMI 28.2 ± 5.5 (15 - 72); 940 (60%) female) and 1700 patients undergoing 1700 TKAs (mean age 69.7 ± 9.3 (22 - 91); BMI 30.6 ± 5.6 (13 - 57); 947 (56%) female).

Univariate analysis was used to identify variables associated with an EQ-5D score < 0: age, BMI, gender, deprivation quintile, comorbidities, and knee specific function measured using the Oxford Hip or Knee Score (OHS, OKS). Multivariate logistic regression was performed. EQ-5D and OHS/OKS were repeated one year following surgery.

Results: Preoperatively, 248 (16%) THA patients and 168 (10%) TKA patients were WTD. Following THA or TKA EQ-5D scores improved significantly ($p < 0.001$), the number WTD reducing to 35 (2%) hips and 56 (3%) knees. Multivariate analysis identified independent predictors of WTD status: preoperative OHS, deprivation and COPD in THA; and OKS, peripheral arterial disease and inflammatory arthropathy in TKA ($p< 0.05$). An OHS ≤ 16 and OKS < 15 predicted WTD status with 87% and 83% sensitivity respectively (area under curve 0.85 and 0.87). Those WTD preoperatively had worse postoperative Oxford scores and worse satisfaction rates at one year ($p < 0.01$).

Conclusions: Sixteen percent of patients awaiting THA and 10% awaiting TKA for degenerative joint disease are in a health state "worse than death". Though some co-morbidities contribute to this, hip or knee specific function, mainly pain, is a key determinant and can be reliably reversed with an arthroplasty.

Disclosure: CEHS has received payments for education delivery from Stryker UK. CRH is a Past President of the BOA. No conflicts to report regarding this work.

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DIRECT ORAL ANTI-COAGULANTS IN THE PREVENTION OF VENOUS THROMBOEMBOLISM FOLLOWING SURGERY FOR HIP FRACTURE IN THE ELDERLY

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Background: Direct oral anti-coagulants (DOACs) decrease the risk of venous thromboembolism (VTE) without increasing the risk of bleeding in elective lower limb orthopaedic surgery. However, the role of DOACs in preventing VTE following hip fracture surgery in the elderly remains unclear. This study aims to evaluate the efficacy and safety of DOACs in elderly patients undergoing surgery for hip fracture.

Methods: Single-centre, retrospective, matched cohort study of patients receiving either a DOAC or low molecular weight heparin (LMWH) for VTE prophylaxis following hip fracture surgery. Data obtained: patient demographics, co-morbidities, fracture classification, time to surgery, procedure performed and length of stay. Outcomes assessed: incidence of VTE, incidence of major haemorrhage and death within 30 days of surgery.

Results: A total of 108 patients (DOAC group = 54, LMWH group = 54) were included. The incidence of VTE was comparable between the DOAC and LMWH groups at 0% and 7.4% respectively (RR: 0.11, 95% CI: 0.01 to 2.02, p= 0.14). Haemorrhage occurred in 7.4% of patients in the DOAC group and 5.6% of patients in the LMWH group (RR: 1.33, 95% CI: 0.31 to 5.68, p = 0.70). Mortality from VTE was 0% in the DOAC group and 1.9% in the LMWH group (RR: 0.33, 95% CI: 0.01 to 8.01, p = 0.49). Mortality from haemorrhage was 1.9% in both the DOAC and LMWH groups (RR: 1.00, 95% CI: 0.06 to 15.58, p = 0.99).

Conclusions: This study demonstrates comparable efficacy and safety of DOACs with LMWH in the prevention of VTE following surgery for hip fracture in the elderly. This can be achieved with careful patient selection.

Implications: DOACs are effective and safe for post-operative VTE prophylaxis in the elderly hip fracture population. Future studies are required to identify patients who stand to benefit the most from treatment.

Disclosure: Nothing to disclose.

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CAN SINGLE STAGE REVISION EFFECTIVELY TREAT PROSTHETIC JOINT INFECTION IN THE KNEE?

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Introduction: The incidence of prosthetic joint infection (PJI) in total knee arthroplasty (TKA) has been rising in line with the number of primary operations performed. Current estimates suggest an infection rate of 2 - 2.4%. Two-stage revision is the historic "gold standard" for treatment, however, some studies suggest comparable results with single-stage procedures. The advantages of single-stage revision include reduced hospital stay, reduced cost, and increased patient satisfaction. However, this has been outweighed by concerns regarding the ability of single-stage procedures to eradicate infection.

Methods: We present a case series of 72 patients who underwent single-stage revision TKA for confirmed PJI between 2006 and 2016. A standard debridement protocol was followed with immediate single stage exchange. Post-operative antibiotics were prescribed according to microbiology results, with the advice of a senior musculoskeletal microbiologist.

Results: Data was analysed in 47 males and 25 females, with a mean age of 71 years (range 49-94). The average length of follow-up was eight years (range two - 13 years). Sixty-five (90.28%) were infection free at most recent follow-up, with seven recurrences (9.72%). Four of these underwent arthrodesis, and three received further antibiotic treatment. No amputations were undertaken.

Conclusions: Single-stage revision in PJI around the knee, according to a strict protocol, with expert multidisciplinary input, can produce infection rates comparable to two-stage revision. This is the largest dataset so far published, with extensive follow-up. The benefits of single-stage revision mean that it should perhaps now be considered a reliable alternative to costly and lengthy two-stage procedures.

Disclosure: Nothing to disclose.

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THE UTILITY OF BEDSIDE LEUCOCYTES ESTERASE TESTING TO RULE OUT SEPTIC ARTHRITIS

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Background: Suspected septic arthritis commonly presents to Orthopaedics although the underlying diagnosis is often non-infective pathology such as inflammatory and crystal arthropathy. Differentiating between these is difficult due to similar clinical features and requires laboratory synovial fluid analysis. A simple bedside test that has a high negative predictive value could allow safe discharge of patients without unnecessary lengthy waits or admission to hospital with the associated cost. This study aims to assess the usefulness of leucocyte esterase strip testing in the investigation of suspected septic arthritis of a native joint.

Methods: A prospective multi-centre observational study of all patients, over 16 years old, presenting to the orthopaedic team with suspected septic arthritis of a native joint. The results of the leucocyte esterase test strips exposed to aspirated synovial fluid were recorded along with formal gram stain and culture.

Results: A total of 80 patients underwent joint aspiration for suspected septic arthritis. Five cases had confirmed septic arthritis with positive 48-hour culture results. In all these cases leucocyte esterase testing (LET) was positive (≥ 2+) with gram stain positive in one case. A total of 24 LET were negative (≤ 1+) all with negative 48-hour culture results. LET of joint aspirates has a negative predictive value of 100% and sensitivity of 100% (95% CI 47.8 - 100) compared to 20% with gram stain. In this study a negative leucocyte esterase has shown the potential to prevent >1/4 patient admissions or emergency department four hour breaches.

Conclusions: This study supports the use of leucocyte esterase testing in suspected septic arthritis with a high negative predictive value allowing safe discharge of patients with negative results.

Implications: The use of leucocyte esterase as a bedside test in the investigation of suspected septic arthritis has the potential to reduce both diagnostic uncertainty and costs to the healthcare system.

Disclosure: Nothing to disclose.

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PATIENT RECALL OF INFORMED CONSENT POST TOTAL HIP ARTHROPLASTY AND THE EFFECT OF A PRE-ADMISSION PROCEDURE SPECIFIC CONSENT DOCUMENT: A RANDOMISED CONTROLLED TRIAL

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Background: Obtaining truly informed patient consent for orthopaedic procedures remains an ongoing challenge for most orthopaedic surgeons. Our previous research has shown that the use of a procedure specific consent form on the day of surgery can improve patient recall of potential complications of surgery. This study aimed to determine if the provision of a procedure specific consent document in advance of the day of surgery could further improve patient recall.

Methods: A randomised control trial was undertaken in a specialist elective orthopaedic hospital. All patients underwent primary total hip replacements. Patients (n = 70) were randomised to receive either a procedure specific consent document in advance of the day of surgery plus consenting on the day of surgery with a procedure specific consent form (intervention) or consenting on the day of surgery with a procedure specific consent form alone (control). Patients were contacted by telephone four weeks post operatively to assess for recall of 12 potential complications outlined during the consent process.

Results: There was a very poor mean recall of potential complications in both the intervention and control groups (1.9 and 1.7 respectively, p = 0.49). Notably 30% of patients overall did not recall a single potential complication ("consent non-responders"). Analysis with consent non-responders excluded showed a statistically significant increase in potential complications recalled in the intervention group compared to the control group (2.95 vs 2.19, p = 0.023).

Conclusions: Patient recall of potential complications of total hip arthroplasty was poor regardless of group. The use of a pre-admission procedure specific consent document may improve recall of potential complications of surgery in a sub-set of patients. The phenomenon of "consent non-responders" is worth exploring in future research.

Disclosure: Nothing to disclose.

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CAN WE REDUCE REVISION RATES FOR TOTAL HIP REPLACEMENTS BY CHANGING THE FIXATION MECHANISM USED?

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Background: The optimal method of fixation for primary total hip replacements (THR), particularly fixation with or without the use of cement remains a controversial topic. Surgeons throughout the world continue to vary their technique for implant fixation. Surgeons discussing the risk of a revision procedure becoming necessary after a THR using different fixation mechanisms can draw upon the orthopaedic literature and arthroplasty registries for long-term implant survival.

Method: We have investigated whether the probability of revision is similar for the different fixation mechanisms in terms of rate and reason for revision. Of a cohort of 6,499 primary THRs, 160 revisions were reported to the NJR as revised over an 11-year period (2004 - 2015).

Results: Results from this study show 1.83% (14/766) of the primary cemented THRs were revised, 3.24% (122/3768) of the primary uncemented THRs were revised, 0.87% (15/1601) of the primary hybrids THRs were revised and 2.48% (9/364) of the primary resurfacing were revised following a primary THR. The key indications for revision were adverse soft tissue reaction to particulate debris, aseptic loosening, dislocation, infection and peri-prosthetic fracture. Results from chi-square test ($p < 0.1$) showed indication for revision and fixation mechanism are not statistically associated, taking into account only the five highest indications for revision.

Conclusions: patients from our hospital are 3.44 times more likely to be revised if they have an uncemented primary THR instead of a hybrid primary THR. Patients from our hospital are 1.77 more likely to be revised if they have an uncemented THR instead of a cemented THR. The optimal method to reduce revision rates would be for surgeons to adapt to cemented or hybrid THRs.

Disclosure: Nothing to disclose.