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SUPPLEMENT II



This comparison shows that changes in surgical technique can limit the subsidence seen with tapered stems used in revision total hip replacement. No bone grafts were used in either series, only small changes in bone preparation, and prosthesis selection were used. The outcome as determined by the OHS was similar in both groups.

### OGILVIE'S SYNDROME: A RARE AND SEVERE COMPLICATION AFTER TOTAL HIP JOINT REPLACEMENT

A. Vane, T. Lambertson, and A. Heath  
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We present two cases of Ogilvie's syndrome and to raise awareness of this rare but serious complication.

**Methodology:** Analysis of two recent cases at our institution. Subsequent 5 year retrospective audit of all joint replacement in Tauranga Hospital and analysis of patient records with a recorded gastrointestinal complication.

We report on two recent cases of Ogilvie's Syndrome (acute colonic pseudo-obstruction) with subsequent caecal perforation after THJR. Case 1: A 49 year old woman underwent THJR for osteoarthritis. Postoperatively developed abdominal pain and distension. Underwent laparotomy for a perforated caecum 10 days following THJR. Died 24 hours later. Case 2: A 73 year old man underwent a revision THJR. Postoperatively developed a distended abdomen. Underwent laparotomy and caecostomy 10 days after THJR. Discharged 29 days after admission. Both cases had GA and spinal anaesthetics with intrathecal Morphine. Both failed to settle with conservative treatment. There was no mechanical obstruction in either case. Audit figures showed 21 other cases of non-mechanical bowel obstruction after hip or knee arthroplasty.

Ogilvie's Syndrome is a rare "malignant" form of postoperative pseudo-obstruction characterised by massive dilatation of the large bowel which, if untreated, results in caecal perforation. It is rare following joint arthroplasty but if occurs has a high morbidity and mortality. Prompt recognition of the presenting features by orthopaedic surgeons with expedient general surgical intervention is necessary to avoid potentially fatal consequences.

### EARLY SUBSIDENCE OF UNCEMENTED ACCOLADE STEM TOTAL HIP JOINT REPLACEMENT

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To measure for evidence of early subsidence of Accolade tapered uncemented femoral stems. To quantify any subsidence and to identify factors which may predispose to this.

A retrospective audit of patients who have received Accolade stem total hip joint replacement in Hawkes Bay Hospital from October 2003 to October 2004. Post operative and follow up x rays (within one year of surgery) were reviewed and position of femoral component in the femur was measured and adjusted for magnification and angulation.

Thirty-eight patients were identified. Patients age averaged 66 years old (44 – 82yo). Results show an mean subsidence of 2.8mm with a range of 0 – 13mm.

There is evidence of early subsidence of Accolade femoral stems. In cases of large subsidence under sizing of the femoral component was identified as the most significant contributing factor.

### MANAGEMENT OF INFECTED TOTAL HIP ARTHROPLASTY

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Total hip arthroplasty has improved the quality of life for many patients with osteoarthritis. Infection is a seri-

ous complication, difficult to treat and often requires removal of the prosthesis to eradicate the infection.

An analysis of the surgical management, risk factors, complications and outcome of infected total hip replacements. Thirty one consecutive patients underwent revision hip arthroplasty for infection between 1997 and 2003. Risk factors, co-morbidity, clinical presentation, biochemical profiles, microbiology, management and radiology were recorded. Outcome and complications following surgery are reviewed. Classification of infection after total hip arthroplasty was based on their clinical presentation—early postoperative, late chronic, or acute haematogenous infection, and positive intraoperative cultures.

All patients underwent resection arthroplasty, 26 had a two-stage revision, 1 had a three stage, 4 did not have a re-implantation. Staph Aureus was the most common organism identified. 16 patients were classified as late chronic insidious, 8 early post operative infection, 6 acute haematogenous and 1 occult intraoperative. Average total blood loss was 5 litres, average replacement was 7 units. 1 patient had a persistent infection. 3 underwent further surgery for dislocation, stem perforation or fracture. 5 patients had a persistent limp.

In infected revisions the bone stock is usually adequate, the soft tissues are very poor. Bivalving the femur allows for optimal cement removal. Blood loss can be significant with average replacement of 7 units. Meticulous removal of infected components, cement and tissue is essential for good long-term results.

### TARGET RESTORATION OF HIP MECHANICS IN THA

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Dislocation continues to be a significant problem in THA. Instability due to improper reconstruction of the abductors can be a contributing factor.

Eight hundred primary THA's were performed over the past four years utilizing a proximal "Dual Press™" cementless porous coated modular stem. This design allows for a large selection of proximal bodies that enable the restoration of proper soft tissue tension and joint biomechanics after the stem is inserted.

Data on stem, neck and head centers were available for 600 of these cases. Head center locations were tabulated and compared to data from the literature.

The head center location data clearly showed that a wide variety of offsets and lengths are required to properly balance the soft tissues. Further, when the data were sorted by distal stem diameter, there is little correlation between head center location and stem size. All were performed utilizing the posterior approach and used without bone cement. 3 fractured stems, 2 dislocations, 14 intra-op fractures, no significant leg length inequalities (+/- 5mm), and 10% indexed to a position other than neutral.

Restoration of joint mechanics was possible using this proximal modular "Dual Press" stem due to the intra-operative versatility offered in regards to head center location when compared to monoblock stems. The data suggest that hip reconstruction benefits from the availability of many head centers for every stem size. The authors conclude that this proximal modular design provides for a more intra-operative accurate approach for reconstructing the biomechanics of the hip.

### THE ROLE OF MODULARITY IN PRIMARY THA – IS THERE ONE?

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Concern was expressed that the use of a modular stem might produce fretting leading to osteolysis, and component failure. The goal of this study was to document the variability of this design by looking at the long-term i.e. 5-17 year follow-up of the use of a Proximal Modular Stem in primary cases.

A cohort of 955 (S-Rom) primary cases have been followed prospectively and rated clinically using the

Harris Hip Score and radiologically after the fashion of Gruen. The mean age was 53. Follow-up was 5-17 years (mean 8.5).

Aseptic loosening requiring revision occurred in three cases (0.3%). One a non-union of a subtrochanteric osteotomy. Two others, one for fracture at the stem tip and one for fracture of the proximal part of a subtrochanteric osteotomy. Harris rating was 78.2% excellent, 16.4% good, 2.3% fair and 3.1% poor. Gruen rating, no lucency in 98.8%, low grade in 1.1% and high grade in 0.1%. Distal osteolysis occurred in two cases. Six patients had persistent thigh pain (type C bone) that was treated by onlay-strut graphs.

There have been no cases of device failures. Other than in the two loose cases distal osteolysis has not been seen. It would appear therefore that the sleeve does act as an adequate seal. There have been no cases of late aseptic loosening and limited thigh pain in type C bone. The authors concluded that this modular device is safe, effective and continue to recommend its use in primary THA.

### MODULAR STEMS FOR REVISION THA

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Traditionally the most commonly used femoral implants in revision hip arthroplasty are distally fixed monoblock designs. Ability to adjust length version and offset is limited once the stem is inserted. Revision using this type of stem has been associated with high incidence of complications including dislocation. Modular distally fixed femoral implants have been developed in order to decrease the complication rate by restoring normal hip mechanics. The goal of this study is to evaluate the performance of these type stems as it relates to fixation and instability.

Seventy three revisions were done using three modular stem designs. All stems were common in design featuring a proximal cone shape body attached by a taper to a fluted distal stem. Revisions were performed for loosening, periprosthetic fractures and infections. Most revisions were in patients with severe bone loss. Follow-up range from 6 to 72 months with an average of 30 months. Parameters evaluated included fixation and instability.

In this series we obtained excellent bony fixation as well as an acceptable dislocation rate in revision of severely compromised femurs. There were no stem fractures at the modular junction at early follow-up. Dislocation was readily managed by revision of the proximal portion of the stem without compromising distal fixation. This study demonstrates that modular approaches can be used successfully.

### ANTERIOR KNEE PAIN ASSOCIATED WITH ARTHROSCOPIC ACL RECONSTRUCTION – A PROSPECTIVE COMPARATIVE STUDY OF TWO METHODS

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The aim was to compare anterior knee pain (AKP) felt before, and after hamstrings (HS, n = 65) and bone-patellar tendon-bone [B-PT-B, n = 94] ACL reconstructions.

The same questionnaire (modified from Shelbourne et al 1997) was answered by patients before, and at least 12 months after surgery. Questions covered five main categories of pain i.e. during prolonged sitting, stair climbing, kneeling, sport or vigorous activity, and ADL.

There was no statistical difference in the two groups in overall AKP scores before surgery. After surgery, there were improvements in this overall score in both groups, but the improvement was statistically greater in the HS group (p = 0.02). Analysis of the five different pain categories showed no significant difference in the improvements in sitting, sport or ADL. In both climbing stairs (p = 0.009), and kneeling (p = 0.02) there were significantly greater improvements in the HS group.