

Post-traumatic arthritis / Harlan C. Amstutz, Michel J. Le Duff Rheumatoid arthritis and related disorders / Harlan C. Amstutz, Michel J. Le Duff Hip resurfacing for other conditions and etiologies / Harlan C. Amstutz, Michel J. Le Duff.

Amstutz MD, Michel J. Le Duff MA Published online: However, many surgeons are reluctant to perform hip resurfacing for ON because of large femoral head defects. To ascertain whether this reluctance is warranted, we determined the mid- to long-term effects of ON on the survivorship, radiographic implant fixation, and disease-specific and quality-of-life scores of hip resurfacing. We compared the results of metal-on-metal resurfacing performed for ON of the hip including large lesions with those of resurfacing performed for other causes. The ON group had 70 patients 85 hips and the control group patients hips including all other etiologies operated on during the same period. The ON group was younger and had a greater incidence of femoral defects, a smaller component size, and a lower body mass index, three variables previously shown to reduce survivorship in hip resurfacing. We observed no difference in survivorship between the ON group and the control group even after adjusting for head size, body mass index, and defect size. Pain relief, walking, and function scores were comparable postoperatively. The activity level was lower in the ON group. Our data suggest ON is not a contraindication for resurfacing even with large femoral head defects. Level III, therapeutic study. See Guidelines for Authors for a complete description of levels of evidence. Introduction The treatment of patients with osteonecrosis ON of the hip remains controversial when the natural joint cannot be salvaged. Conventional THA, hemiresurfacing, and now full metal-on-metal hip resurfacing are the current prosthetic options. THA has so far been the treatment of choice for most patients, especially when the progression of the disease has reached Ficat Stage IV. Several reports suggest the clinical scores, radiographic outcome, and survivorship of patients with ON are comparable with those of other etiologies [16, 21, 27], whereas others indicate conventional THA does not perform as well in patients with ON, in particular those younger than 50 years of age [12, 14, 24, 25, 28]. Recently, full hip resurfacing has become an alternative to both THA and hemiresurfacing in young patients. Two recent reports suggested good short- to midterm functional scores and survivorship can be achieved with hip resurfacing [23, 26], although one report questioned whether the survivorship was comparable to that of patients with osteoarthritis [22]. Also, the indications for hip resurfacing in these three reports were limited to hips with a lesion smaller than one-third of the femoral head. Is ON a contraindication for metal-on-metal hip resurfacing? Given the apparent discrepancies in the literature, we compared the 1 survivorship; 2 activity and SF scores; 3 component abduction angles; 4 radiolucencies; and 5 complications in patients with metal-on-metal One or more of the authors HCA received funding from St Vincent Medical Center, Los Angeles, and Wright Medical Technologies Inc. Patients and Methods We retrospectively reviewed all patients hips treated with a Conserve1 Plus metal-on-metal resurfacing device Wright Medical Technology Inc, Arlington, TN between and Seventy patients 85 hips underwent resurfacing for arthritis secondary to ON of the femoral head, whereas hips had the procedure for all other indications. We selected patients with ON Ficat Stage III or greater and older than age 35 years unless cartilage damage was Grade III or greater [11]; we included patients with large lesions as long as the cylindrically reamed bone was intact Fig. The decision for resurfacing was never changed during surgery to perform a THA, although the defect was often larger than anticipated based on radiographic analysis. During this same time period, we performed 30 hemiresurfacing procedures for 24 patients with ON whose acetabular cartilage was sufficiently preserved and 16 primary THAs in 15 patients with ON who did not receive a resurfacing device for one of the following reasons: The average age of the patients with ON was Most of the patients were male 57 of 70 [Thirty-three of the 70 patients The control group was composed of the remaining patients hips with the following etiologies for surgery: The minimum followup time for the ON group was 2. Eight patients two bilateral died during the followup period of causes not related to the procedure one in the ON group, seven in the control group. Four patients were lost to

followup, one in the ON group and three in the control group. The patients with ON were younger, had a smaller mean component size, and had more often femoral head defects greater than 1 cm compared with the patients of any other etiologies Table 1. In the ON group, six hips 7. The fundamentals of the operative technique used for this series have been described in previous publications [2, 4, 10]. Removal of all of the dead, yellowish, friable necrotic bone down to the normal or dense white reactive bone was achieved by alternating burring, irrigation, and drying and, in many cases, led to substantial loss of the head. Improvements in the surgical technique were made over time, which have been previously described [5, 8]. However, by the time Hip 37 was implanted in the ON group and Hip in the control group, the most important modifications had been made ie, use of dome Fig. The insets show the extent of the femoral defects after removal of the necrotic lesions. In this case, the length of the neck could not be maintained because the femoral defects were too large to preserve a part of the chamfered area. Because some portion of the head is typically viable up to the chamfered area, the head length is generally preserved. In our opinion, for the osteone- crotic group, the most important change was the pressurization of doughy cement into the defects located in the cylindrical portion of the head before insertion of the component. Fixation was accomplished with a 1-mm cement mantle. The regular viscosity acrylic cement coated the inside of the component and the component was pressed on manually or inserted with light mallet taps, whereas the excess of cement was completely extruded until the component was completely seated. Defects in the head were grafted in one case. In the ON group, four patients had contralateral hemiresurfacing, 16 had bilateral full metal- on-metal resurfacing one of them with a device from another manufacturer , three had contralateral conven- tional THA, and seven had undergone contralateral core decompression. We currently cement the stem in hips with a femoral head size 46 mm or lower and hips with femoral head defects greater than 1 cm [6], condi- tions that include nearly all of the ON cases that were routinely cemented since March We used the UCLA hip scoring system [9] to evaluate disease-specific patient progress and the SF [29] as an assessment of quality of life. The postoperative Harris hip score was also calculated [19]. Range-of-motion mea- surements were recorded at each followup visit. Pre- and postoperative radiographs were available for all patients except one lost to followup. Two of us MJL, HCA determined the size of the necrotic lesion from the preoperative anteroposterior radiograph as described by Revell et al. The size of the lesion was measured on the anteroposterior radiograph as the angle defined from the center of the femoral head to the outer limits of the necrotic lesion. The mean head involvement angle was In this assessment, we did not include any measurements for the three hips that had undergone prior hemiresurfacing. Postoperatively, one of us MJL measured the metaphyseal stem-femoral shaft angle and the lateral opening of the socket. Femoral and acetabular radiolucencies were recorded as previously de- scribed [3]. We HCA used the Brooker et al. We compared the preoperative and postoperative scores of the two groups using the Mann-Whitney U tests. Time- dependent analyses were made using standard Kaplan-Meier survivorship techniques using the time to revision for any reason and the time to revision for femoral failure only. The Cox proportional hazard model was used to determine the effect of a diagnosis of ON on the risk of revision, adjusting for femoral head size, patient body mass index, and the presence of femoral head defects greater than 1 cm because these variables differed between the two groups Table 1 and are known to affect prosthetic sur- vival in hip resurfacing [5, 20]. Comparative demographics of the patients operated on for arthritis secondary to osteonecrosis ON group and those operated on for arthritis secondary to other etiologies control group Demographic variables ON group 70 patients, 85 hips Control group patients, hips p Age years Two were performed for loosening of the femoral component, one at 23 months related to an incomplete seating of the component [7] and the other 61 months after surgery Fig. In none of these two femoral components had the metaphyseal stem been cemented. Both hips were converted to a THA, leaving the acetabular component in situ. Both of these patients were operated on early in our series ON Patients 1 and 7. Loosening of the acetabular component caused the third conversion. This patient had some intermittent activity-related symptoms approximately 2 years after surgery. The component was loose when the hip was revised at another institution 56 months after surgery. In addition, extensive bone grafting

and revision of the acetabular component were needed after overreaming of the first hip in a patient undergoing a one-stage bilateral procedure. The component had protruded through the acetabular wall. The revision took place 3 days after surgery. There were 35 revisions in the control group. Using femoral failure only as end point, the Kaplan-Meier survivorship at 5 years was The insets show the femoral heads after preparation for resurfacing. B The patient underwent two-stage bilateral resurfacing and is shown 6 months after her right-sided operation the component was placed in relative varus with the metaphyseal stem left un cemented and 3 months after the left. C Five years after surgery, the femoral component loosened on the right side and tipped into further varus. D Conversion to THA; the well-fixed acetabular component was left in situ and the femoral component replaced with an ATH long stem grit-blasted and a mm unipolar head. The time to revision for any reason was used as the end point. The two groups of patients had similar survivorship. At last followup, the mean activity score and mental component of the SF were lower in the ON group compared with the rest of the cohort 7. In the ON group, two patients had low walking and function scores postoperatively. One was Charnley Class C and the other had lower back pain. The preoperative range of motion of the patients with ON was larger than that of the rest of the cohort in flexion and rotation. Postoperatively, the hip range-of-motion measurements were comparable between the two groups Table 5. One patient from the ON group formed Brooker et al. Grade III Table 3. Osteonecrosis of the hip. Principles, Indications, Technique and Results. The prevalence of heterotopic ossification Brooker et al. There were no postoperative neck fractures, dislocations, nerve palsies, or thromboembolic episodes in the ON group. The control group counted nine fractures of the femoral neck 1. Discussion Hip resurfacing is becoming a popular prosthetic solution for young patients, but previous reports at short- to midterm followup disagree on the appropriateness of performing hip resurfacing for patients with ON [22, 23, 26]. There is a need for mid- to long-term clinical data to determine whether ON is a contraindication for hip resurfacing. Given the apparent discrepancies in the literature, we compared the 1 survivorship; 2 activity and SF scores; 3 component abduction angles; 4 radiolucencies; and 5 complications in patients with metal-on-metal hybrid resurfacing performed for ON and for other etiologies. A limitation of this study is that the study group included hips with posttraumatic ON, which could be considered a different etiology. However, patients with posttraumatic ON present common challenges to those of other ON etiologies to the surgeon performing hip resurfacing, in particular the presence of large femoral head defects.

Chapter 2 : Hip resurfacing (edition) | Open Library

Contents: Evolution of hip resurfacing / Harlan C. Amstutz, Michel J. Le Duff -- Femoral head vascularity and hip resurfacing / Ahmad Bin Nasser, Paul E. Beaulieu -- The mechanics of the resurfaced hip / J. Paige Little, David J. Simpson, Richie blog.quintoapp.com -- Tribology of bearing materials / John B. Medley -- Imaging of hip resurfacing / Thomas A.

Amstutz Find articles by Harlan C. Received Sep 30; Accepted Jan Abstract Background The benefits of using thin acetabular components for hip resurfacing have been shown in terms of bone conservation, but there currently are little data available in the literature addressing the mid-term clinical results of these devices. Methods Two hundred eighty-one patients with unilateral disease received a 5-mm thick acetabular shell and received a 3. The femoral component implanted in both groups was identical. We compared clinical scores, complication rates, survivorship, radiographic results, and ion levels between these two groups. Complications were higher in the 5-mm group 6. Conclusions With comparable mid-term clinical results, there is no tangible reason to abstain from using the 3. See the Guidelines for Authors for a complete description of levels of evidence. Introduction Hip resurfacing provides stability because of the larger femoral head [10 , 17] and maintains normal biomechanics and leg length equality [14 , 24], all with minimal bone loss for a subsequent hip arthroplasty [26]. Metal-on-metal bearings have enhanced the bone-conserving nature of the procedure because of the ability to manufacture thin yet strong monoblock acetabular components with ingrowth surface while accommodating a close to normal-sized femoral head. The benefits of the thinner components in terms of bone conservations have been reported [19], but the effect of acetabular cup thickness on the clinical results of hip resurfacing have not been studied. The purpose of our study was to compare the clinical scores, complication rates, survivorship of the acetabular component, radiographic findings, and serum metal ion levels of the thin and thick acetabular designs in a large series of patients treated with metal-on-metal hip resurfacing arthroplasty. All patients with Charnley Class A disease patients with unilateral hip disease operated on between November and March were included in this study. Five hundred four patients were selected, of which received a 5-mm thick acetabular shell and received a hip resurfacing device with a thinner, 3. At the time of writing, 14 patients 10 in the 5-mm shell group and four in the 3. Although the 5-mm thick socket had a constant thickness, the 3. The gain in volume for a 3. Regarding the insertion technique, the 5-mm shell was attached to the inserter with three bayonet locked fixation points, whereas the 3. The change also was made to reduce the thickness of the end piece so the surgeon could have a better view of the anterior acetabular rim during the insertion.

DOWNLOAD PDF POST-TRAUMATIC ARTHRITIS HARLAN C. AMSTUTZ, MICHEL J. LE DUFF

Chapter 3 : Hip resurfacing : principles, indications, technique and results (Book,) [blog.quintoapp.com]

Michel J. Le Duff, Alicia J. Johnson, Harlan C. Amstutz Joint Replacement Institute, St Vincent Medical Centre, Los Angeles, California - USA Corresponding Author: Joint Replacement Institute, St. Vincent Medical Center, West Third Street, Suite , Los Angeles, CA, USA, HarlanAmstutz@blog.quintoapp.com

A number of short stems for total hip arthroplasty have been introduced during the last decade. The potential increase of bone mass around a femoral short stem using bone densitometry may be an indicator for secondary ingrowth. The mean follow-up was 5. The Mean Harris Hip Score increased from Radiolucent lines were visible radiographically in two patients during follow-up. The clinical and radiological results support to the principle of metaphyseal anchorage of a short stem prosthesis. Long term evaluation will be of interest to determine if these encouraging trends are reflected by prolonged survivorship. This study compared the outcomes of metal-on-metal hip resurfacing HR in patients performed for The Birmingham mid-head resection arthroplasty - minimum two year clinical and radiological follow-up: This is a clinical and radiological follow-up of the first 35 consecutive procedures 34 patients, 16 male, A biomechanical comparison of the thrust plate prosthesis and a stemmed prosthesis. Mid-to-long term follow-up of Transcend metal-on-metal versus Interseal metal-on-polyethylene bearings in total hip arthroplasty. Second-generation metal-on-metal total hip arthroplasty THA was introduced in the early s to address osteolysis and aseptic loosening resulting from polyethylene wear. We present a comparison between the Transcend metal-on-metal and Interseal metal-on-polyethylene THAs Medium term follow up of the Biodynamic neck sparing prosthesis. Some complications following HR have been documented in the recent literature, but NSP are not yet supported by clinical follow-up studies of sufficient duration. A clinical, radiological and histological analysis. The mean follow-up was 73 months 62 to Revision of either component was defined as failure. The average Harris hip score A review of hip resurfacings revised for unexplained pain. Adverse reaction to metal debris ARMD has come to prominence as a mode of failure for metal-on-metal hip resurfacings. These patients frequently present with unexplained groin pain. Clinical experience in femoral revision with the modular Profemur R stem. From March to March , we employed the Profemur R modular stem in 35 cases of femoral component revision 31 first revisions and 4 re-revisions. The reasons for revision surgery included aseptic Effect of restoration of combined offset on stability of large head THA.

Chapter 4 : The NANOS short stem in total hip arthroplasty: a mid term follow-up

Sporting Activity After Hip Resurfacing: Changes Over Time Michel J. Le Duff and Harlan C. Amstutz The evolution of patient sporting activities after hip resurfacing has not yet been studied.

Chapter 5 : Hip Resurfacing Arthroplasty

Get this from a library! Hip resurfacing: principles, indications, technique and results. [Harlan C Amstutz;] -- The author, one of the foremost authorities on hip replacement, has distilled his vast clinical and research experience into an essential, practical guide on hip resurfacing.

Chapter 6 : Hip Resurfacing Arthroplasty

patients (hips) underwent metal-on-metal hybrid hip resurfacing with a diagnosis of non-primary osteoarthritis. The patients were young (average years (range, 14 to 63).) and 62% were males.

Chapter 7 : Hip resurfacing : principles, indications, technique and results (eBook,) [blog.quintoapp.com]

DOWNLOAD PDF POST-TRAUMATIC ARTHRITIS HARLAN C. AMSTUTZ, MICHEL J. LE DUFF

*Surface Arthroplasty in Young Patients with Hip Arthritis Secondary to Childhood Disorders Harlan C. Amstutz, MD a, *, Edwin P. Su, MD b, Michel J. Le Duff, MA a.*

Chapter 8 : Revisiting surface arthroplasty of the hip - Details - Trove

Harlan C Amstutz Paul E Beaulieu© Frederick J Dorey Michel J Le Duff Pat A Campbell Thomas A Gruen J Bone Joint Surg Am Sep;88 Suppl 1 Pt Joint Replacement Institute, Orthopaedic Hospital, South Flower Street, Los Angeles, CA , USA.

Chapter 9 : Publications Authored by Michel J Le Duff | PubFacts

Harlan C Amstutz Michel J Le Duff. Hip Int Jul 6;27(4) Epub Feb 6. Joint Replacement Institute at St. Vincent Medical Center, Los Angeles - USA.