

Beaule PE, Dorey FJ, LeDuff M, Gruen T, Amstutz HC. Risk factors affecting outcome of metal-on-metal surface arthroplasty of the hip. Clin Orthop 418: 87-93, 2004

Abstract: We evaluated radiologic and clinical features affecting the outcome of hybrid metal-on-metal surface arthroplasty of the hip in 119 hips in patients 40 years and younger. Only the hips that had either failed or had minimum 2-year followup were reviewed. Ninety-four hips in 83 patients with a mean age of 34.2 years (range, 15-40 years) were reviewed. Seventy-one percent of the patients were males and 29% of the patients were females; 14% had previous surgery. The Chandler index and surface arthroplasty risk index were calculated. The mean followup at 3 years (range, 2-5 years) showed that three hips were converted to a total hip replacement at a mean of 27 months (range, 2-50 months) after the original surgery, and 10 hips had significant radiologic changes. The mean surface arthroplasty risk index for these 13 problematic hips versus the remaining hips was significantly higher, 4.7 and 2.6, respectively. The mean angle between the prosthesis stem and femoral shaft in the problematic group was significantly smaller than in the remaining hips: 133 degrees and 139 degrees, respectively. With a surface arthroplasty risk index score greater than 3 the relative risk of early problems is 12 times greater than if surface arthroplasty risk index less than or equal to 3.