

TABLE E-1 Evidence-Based Articles Related to Total Hip Arthroplasty

Vendittoli PA, Rivière C, Roy AG, Barry J, Lusignan D, Lavigne M. Metal-on-metal hip resurfacing compared with 28-mm diameter metal-on-metal total hip replacement: a randomised study with six to nine years' follow-up. *Bone Joint J.* 2013 Nov;95(11):1464-73.

In this study, 219 hips in 192 patients were randomized to either 28-mm metal-on-metal uncemented total hip arthroplasty (THA) or hybrid hip resurfacing (HR). There was no significant difference in the rate of revision (THA group = 4.0%; HR group = 5.8%) at a mean follow-up time of eight years. The mean University of California, Los Angeles activity scores were significantly higher in the HR group (7.5 versus 6.9, $p = 0.035$). Western Ontario and McMaster Universities Osteoarthritis Index scores were not significantly different between groups at the time of final follow-up. Osteolysis was more common in the THA group (37.4%) than in the HR group (2.4%). Mean serum cobalt and chromium levels were $<2.5 \mu\text{g/L}$ in both groups. Longer-term follow-up is needed to determine if there is any difference in the complication rates associated with these procedures.

Alshryda S, Mason J, Sarda P, Nargol A, Cooke N, Ahmad H, Tang S, Logishetty R, Vaghela M, McPartlin L, Hungin AP. Topical (intra-articular) tranexamic acid reduces blood loss and transfusion rates following total hip replacement: a randomized controlled trial (TRANX-H). *J Bone Joint Surg Am.* 2013 Nov 6;95(21):1969-74.

This was a double-blind, randomized controlled trial of 161 patients undergoing unilateral primary total hip arthroplasty. Patients were randomized to the use of topical (intra-articular) tranexamic acid (TXA), and the primary outcome was blood transfusion rate. The use of TXA reduced the transfusion rate from 32.1% to 12.5% ($p = 0.004$). Blood loss, hemoglobin concentration drop, length of stay, and cost were also decreased in the TXA group. Oxford hip scores and EuroQol scores were similar at three months. These data confirm that topical TXA is effective at decreasing blood loss and transfusion rate without the complications associated with use of intravenous TXA.

Valancius K, Søballe K, Nielsen PT, Laursen MB. No superior performance of hydroxyapatite-coated acetabular cups over porous-coated cups. *Acta Orthop.* 2013 Dec;84(6):544-8.

This is an eight-year follow up study to a previously published, prospective randomized study that compared the clinical outcomes, survival, periprosthetic bone mineral density, migration, and wear rates of hydroxyapatite (HA) and porous-coated acetabular cups. One hundred patients were randomized to either porous-coated or HA-coated cups. Patients were examined at three, six, and nine months postoperatively and then at one, three, and eight years postoperatively. Survival, wear, and migration patterns of the cups were similar between groups. There was evidence of higher bone mineral density in one region of interest with porous-coated cups. The eight-year follow-up data confirmed that there was no benefit to the use of an HA-coated cup.

Miller AG, McKenzie J, Greenky M, Shaw E, Gandhi K, Hozack WJ, Parvizi J. Spinal anesthesia: should everyone receive a urinary catheter?: a randomized, prospective study of patients undergoing total hip arthroplasty. *J Bone Joint Surg Am.* 2013 Aug 21;95(16):1498-503.

This was a prospective, randomized study involving 200 patients who underwent total hip arthroplasty. All patients received spinal anesthesia but were randomized to treatment with or without the insertion of a urinary catheter. Patients in the catheter group retained the catheter for forty-eight hours postoperatively. Patients in the no-catheter group were monitored for urinary retention and had straight catheterization performed if necessary. Nine patients in the no-catheter group and three patients in the catheter group required straight catheterization for urinary retention. Three patients in the catheter group and no patients in the no-catheter group developed urinary tract infections. These data suggest that routine insertion of a urinary catheter in patients undergoing total hip arthroplasty under spinal anesthesia is not necessary.