Tackling the learning curve: comparison between the anterior, minimally invasive (Micro-hip®) and the lateral, transgluteal (Bauer) approach for primary total hip replacement.

There is still conflicting evidence about the true benefit of minimally invasive (MI) techniques in total hip replacement (THR). The aim of this prospective study was to evaluate the safeness of a MI approach during the learning curve of a single surgeon. Second, clinical and radiographic results among the MI THR group were compared with the results using a standard transgluteal (Bauer) approach. 86 primary unilateral total hip arthroplasties (THAs) through a MI, anterior (Micro-hip®) approach were performed by a single senior surgeon (ES), representing a consecutive series of patients after beginning with the MI technique. Cases were compared to a matched cohort of patients who were treated with a standard transgluteal (Bauer) approach. Operation time, incision length, perioperative blood loss, haemoglobin level and blood transfusions were monitored. Complications were documented and followed up 1 year postoperatively. The Harris Hip Score (HHS), range of motion, use of analgetics, the Trendelenburg sign, sensibility of the lateral femoral cutaneous nerve and the acetabular/femoral component placement as well as potential heterotopic ossifications were analysed in both the groups after 12 months postoperatively. 74 MI THR patients and 60 standard THR patients were available for the one year
follow-up. Operative time was significantly longer in the MI group, reduction in the haemoglobin level during the first 24 h was significant and the length of skin incision was significantly shorter. No significant differences were found for HHS, range of motion, use of analgetics, the Trendelenburg sign, and the acetabular/femoral component placement, heterotopic ossifications and intra- and postoperative complications. Sensibility of the lateral femoral cutaneous nerve was affected in three patients in the MI group. Radiographic evaluation revealed no component migration, implant subsidence or radiolucency signs in both the groups. DISCUSSION: Consistent with recent meta-analysis we found reduced blood loss, similar clinical/radiographic outcome and similar complication rates compared to standard THA. Our study shows, that MI THR is a safe procedure during the learning curve of an experienced surgeon.