

Total Hip Arthroplasty through Direct Anterior Approach with Bikini Incision

Cesare Faldini, Alberto Corrado Di Martino, Manuele Morandi Guaitoli, Matteo Brunello, Chiara Di Censo, Giuseppe Geraci, Niccolò Stefanini, Federico Pilla, Francesco Traina

Introduction: The bikini incision approach for total hip arthroplasty (THA) is an aesthetic and functional variant of the anterior surgical approach, designed to minimize cosmetic concerns and improve patient satisfaction, particularly among young and active women. Despite potential aesthetic advantages, comprehensive studies evaluating clinical outcomes, functional results, and associated complications remain scarce in the literature.

Materials and Methods: A retrospective review was conducted on 127 women undergoing THA via the bikini incision approach from January 2017 to December 2024. Data collected included age, BMI, operative time, length of hospital stay (including rehabilitation), Harris Hip Score (HHS) at 12 months, perioperative and postoperative complications, and cosmetic assessment using the Patient and Observer Scar Assessment Scale (POSAS). Additionally, radiographic analysis of acetabular cup inclination angle was performed.

Results: The average operative time was 87 ± 8 minutes. The mean hospital stay, inclusive of physical therapy, was 8.5 days. The overall complication rate observed was 4.4%, comprising one prosthetic dislocation, three cases of lateral femoral cutaneous nerve (LFCN) neuropraxia, one aseptic loosening, and two intraoperative femoral fractures. The average POSAS score for the scar was 11.7 ± 4 , indicating overall positive patient satisfaction with the cosmetic outcome. Radiographic evaluation revealed a mean acetabular cup inclination angle of $38.4^\circ \pm 4.2^\circ$, indicating accurate implant positioning through this surgical approach.

Discussion and Conclusions: The bikini incision approach in THA provides significant cosmetic benefits with a low complication rate. Operative times and hospital stays are consistent with traditional surgical techniques reported in the literature. The complication rate observed is acceptable and comparable to other minimally invasive surgical approaches. The excellent aesthetic results, reflected by low POSAS scores, confirm the additional value of this technique, particularly for younger and physically active female patients. Overall, the bikini incision approach emerges as an effective and safe surgical option, offering optimal functional outcomes alongside high patient satisfaction regarding cosmetic appearance.