

KINCISE™

Surgical Automated System



Surgical Automation Reduces Operating Time While Maintaining Accuracy For Direct Anterior Total Hip Arthroplasty¹

Bhimani et al have conducted a retrospective study comprising 111 consecutive THAs performed through a Direct Anterior approach¹. The KINCISE™ Surgical Automated System was used in 51 cases, while 60 were performed using a manual procedure. All the procedures were performed using an identical exposure technique and intra-operative fluoroscopy. The ACTIS™ Total Hip System was used with the PINNACLE® Acetabular Cup System in all cases.

- Operating Room (OR) time was on average 8 minutes faster in the surgical automation group (88.5 min vs 96.6 min), (p=0.00087)
- Average femoral stem size increased by a full size with surgical automation (size 7.0 vs size 5.9), (p=0.0067)
- No difference was found in average leg length discrepancy (0.72 mm vs 0.67 mm), (p=0.88)

There was one nondisplaced calcar fracture found intraoperatively in the automated group in an elderly osteoporotic female, which was treated with a cerclage wire without any change in the postoperative weight bearing status.

Surgical care accounts for nearly one-third of all US health care spending, and the OR is the second most expensive part of surgical care.² In this study it was found that use of the KINCISE Surgical Automated System led to an average OR time saving of 8 minutes per case. Research has been conducted previously to examine the true cost of OR time, with estimates ranging from \$16.21 per minute to \$133.12 per minute.²⁻⁴ Shippert et al found the mean cost to be \$62 per minute, and concluded "To save more than \$100,000, the surgeon has to save only approximately 7 minutes per case on 250 cases."⁴

Key Takeaways:

1. **Surgical automation reduces OR time.**
2. **Surgical automation increases average femoral implant size.**
3. **Cup accuracy and leg length equalization are maintained when using surgical automation.**

The KINCISE Surgical Automated System saved **8 minutes** per case in this study which could lead to estimated savings of around **\$124,000** based on an average OR time cost of \$62/minute and surgeon volume of 250 cases

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REFERENCES

1. Bhimani AA, Rizkalla JM, Peters Jr PC, Kitziger KJ, Schubert RD, Gladnick BP. Surgical Automation Reduces Operating Time While Maintaining Accuracy for Direct Anterior Total Hip Arthroplasty. Presented at AAHKS, Dallas Nov 7-10th 2019. 2. Childers CP, Maggard-Gibbons M. Understanding Costs of Care in the Operating Room. JAMA Surg. 2018 Apr 18;153(4):e176233. 3. Moody AE, Gurnea TP, Shul CP, Althausen PL. The True Cost of Operating Room Time: Implications for an Orthopedic Trauma Service. J Orthop Trauma. 2019 Oct 28. 4. Shippert R. A Study of Time-Dependent Operating Room Fees and How to save \$100 000 by Using Time-Saving Products. J Cosmetic Surg 2005;22[1]:25-34.