Evidence in focus

Publication summary

Herry Y, Lustig S, et al. *Int Orthop* (2017)*

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Restitution of joint-line height in unicompartmental knee arthroplasty (UKA) was significantly improved with NAVIO◇ Surgical System compared with control group (p<0.05)

Results from the first study comparing joint-line restitution following robotic-assisted UKA or a conventional technique

Study design

- Single-surgeon retrospective, case-controlled study comparing joint-line height following UKA using NAVIO robotic-assisted (40 patients; mean age, 69 years) or conventional technique (40 patients; mean age, 68 years)
- Weight-bearing radiographs were taken pre-UKA and 2 months post-UKA

Key results

- The joint-line was distalised significantly more following UKA in the conventional group than in the NAVIO Surgical System group when assessed using two methods (p<0.05; Figure)
  - Method 1: angle between joint-line and lateral femoral cortex
  - Method 2: angle between joint-line and femoral intramedullary axis

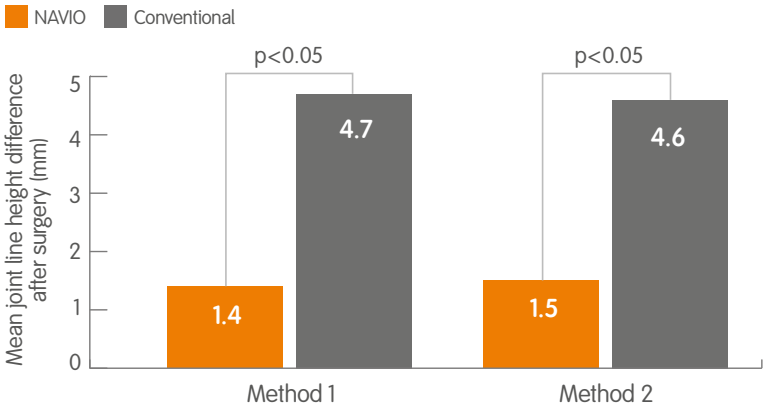

Figure. Mean joint-line height difference (mm) following UKA using robotics-assisted or conventional techniques, as analysed by two methods

Conclusion

NAVIO robotics-assisted UKA allows for intraoperative planning of implant position and accurate bone resection, resulting in improved joint-line restitution when compared with a conventional technique. Furthermore, NAVIO Surgical System may avoid creating femoral superstructures, thereby reducing tibial resection and helping to prevent pain and other post-UKA complications. Further studies should be undertaken to assess long-term outcomes.

Study citation

*Herry Y, Batailler C, Lording T, Servien E, Neyret P, Lustig S. Improved joint-line restitution in unicompartmental knee arthroplasty using a robotic-assisted surgical technique. *Int Orthop*. 2017;41:2265–2271.

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