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# Early clinical outcome in inverse kinematic alignment for total knee arthroplasty using a robotic assisted system: two years follow-up.

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# Faculty Disclosure Information

Nothing to disclosure.



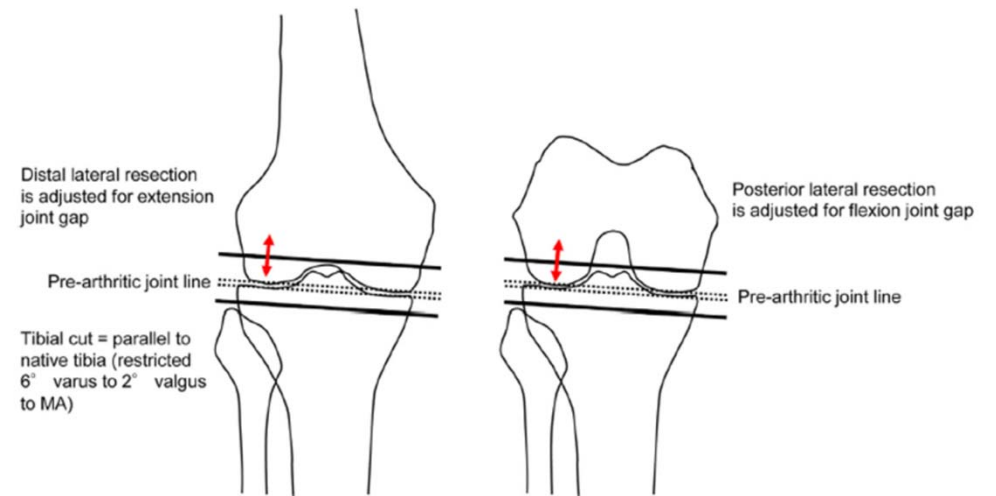
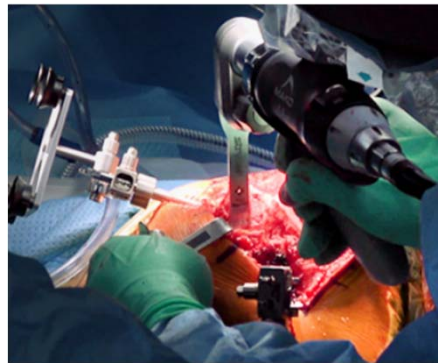
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# Objectives

Despite advancements in total knee arthroplasty (TKA) surgical technique and implant geometry, some patients still report dissatisfaction with their knee implant. Consequently, the introduction of new robotic-assisted systems aims to improve clinical outcomes through a comprehensive study of patient lower limb alignment. The purpose of this study is to investigate whether the surgical technique of inverse kinematic alignment using a robotic-assisted system (Mako, Stryker) can provide a better clinical outcome and a longer implant survivorship.



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# Materials and Methods

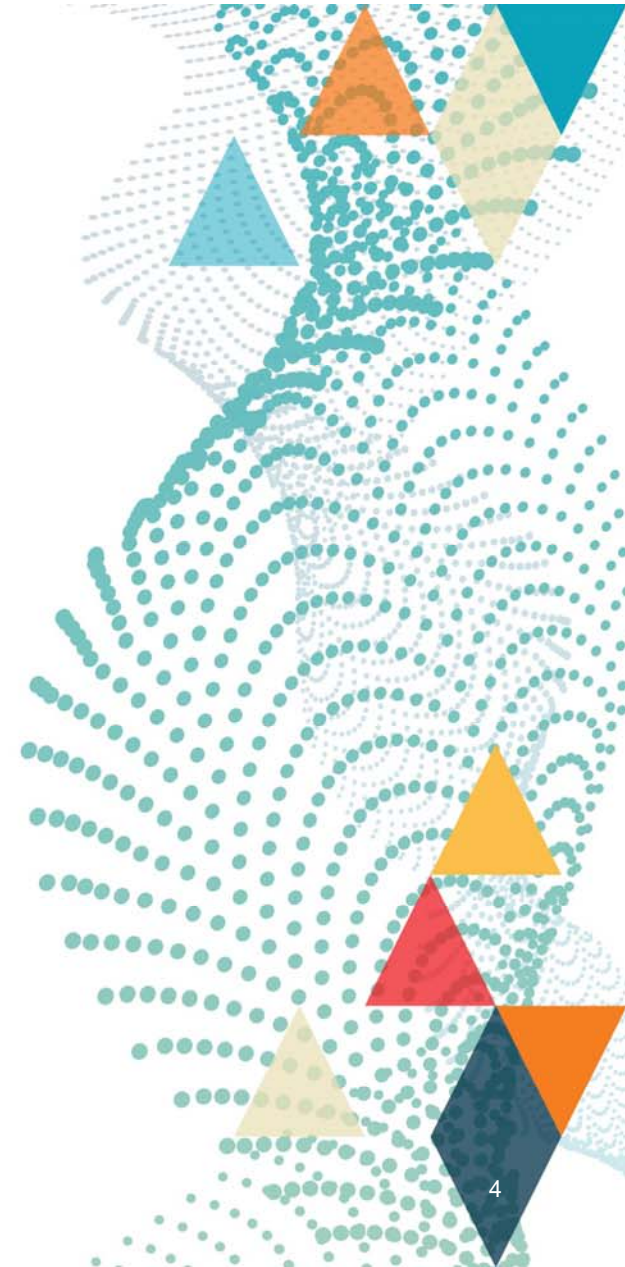
From January 2022 to December 2023, two surgeons performed 106 robot-assisted inverse kinematic alignment TKAs and these were prospectively evaluated. The clinical outcome has been evaluated preoperatory and 6 months post-surgery through the Knee Society Score (KSS) and the Knee Injury and Osteoarthritis Outcome Study (KOOS). Implant survivorship has been assessed at 6, 12 and 24 months post-surgery.

## KOOS KNEE SURVEY

Today's date: \_\_\_\_/\_\_\_\_/\_\_\_\_ Date of birth: \_\_\_\_/\_\_\_\_/\_\_\_\_

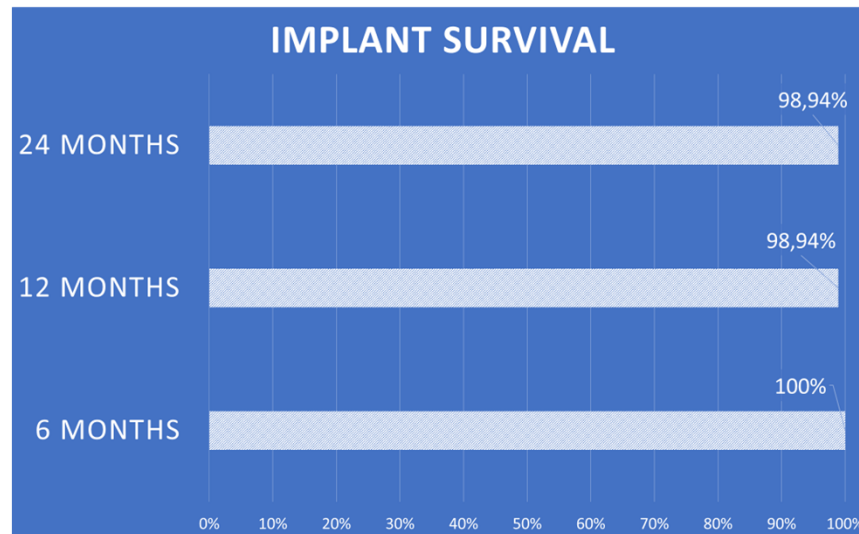
Name: \_\_\_\_\_

**INSTRUCTIONS:** This survey asks for your view about your knee. This information will help us keep track of how you feel about your knee and how well you are able to perform your usual activities. Answer every question by ticking the appropriate box, only one box for each question. If you are unsure about how to answer a question, please give the best answer you can.



# Results

Clinical parameters at 6 months postoperative yielded statistically significant results: KSS scored  $93 \pm 5$  points with  $p=0.03$ , and KOOS scored  $87 \pm 7$  points with  $p=0.16174$ . Implant survival was estimated at 100% ( $p=0.087$ ) 6 months postoperatively and at 98.94% ( $p=0.972$ ) both after 12 and 24 months, with only one patient undergoing a second surgery due to aseptic loosening.



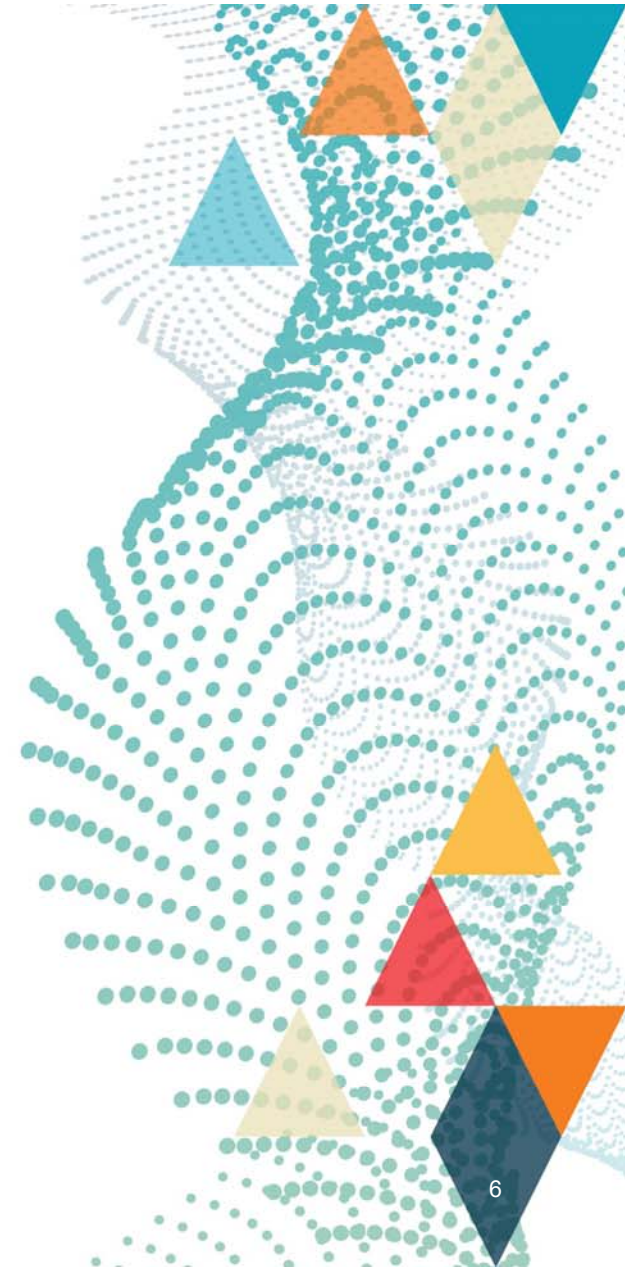
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# Conclusion

Compared to the literature, the results of the study have reported comparable clinical outcomes at 6 months, while **implant survival has been longer throughout the entire examined period**. In the near future, our objective will be to assess this same patient group with a complete 2-year follow-up. In summary, in our experience **inverse kinematic alignment for TKA using a robotic-assisted system** represents the gold standard, both in terms of implant survival and patient satisfaction.





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