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Letter to the editor

Comment on: Revision Total Knee Arthroplasty Using Robotic Arm Technology

Regarding a recent article published in your journal *Arthroplasty Today*: Revision total knee arthroplasty using robotic arm technology by Micah MacAskill, Baylor Blickenstaff, Alexander Caughran, and Matthew Bullock.

We have an issue with the introduction of the article on the earliest description of robotic arm assisted revision total knee arthroplasty. The authors state first in the introduction:

> "*To our knowledge, there are no reports of robotic technology being used for the revision of a TKA*" [1].

And again, in the discussion:

> "*To our knowledge, this is the first report of this technology being used for revision of a total knee replacement*" [1].

With increasing number of primary total knee arthroplasties (TKAs) being performed, there is an increase in the number of revision TKAs for a multitude of reasons [2,3]. With improving technology and techniques, robotic arm–assisted arthroplasty has also seen a dramatic rise in recent years [4]. There are previously published reports of robotic arm–assisted conversion of unicompartmental knee arthroplasty to TKA, including 1 case report [5] and 1 case series [6]. Robotic arm–assisted revision of failed primary total knee arthroplasty was first described by Steelman et al [7], in August 2021 in a patient with aseptic loosening of the tibial component. The technique described by Steelman et al. utilized off-label use of Mako robotic arm technology (Stryker, Mahwah, NJ) and involves mapping the femur and tibia over the previous components (Fig. 1), as well as manipulation of the Mako plan to adjust for augments. In addition, because robotic technology was able to control for implant position, short, cemented stems with metaphyseal cones were able to be utilized in the revision construct (Fig. 2). The technique described in this article by MacAskill et al. is the same technique that was first described by Steelman K., Carlson K., and Ketner A, in August 2021.

Conflicts of interest

The authors declare there are no conflicts of interest.

For full disclosure statements refer to https://doi.org/10.1016/j.artd.2022.101092.

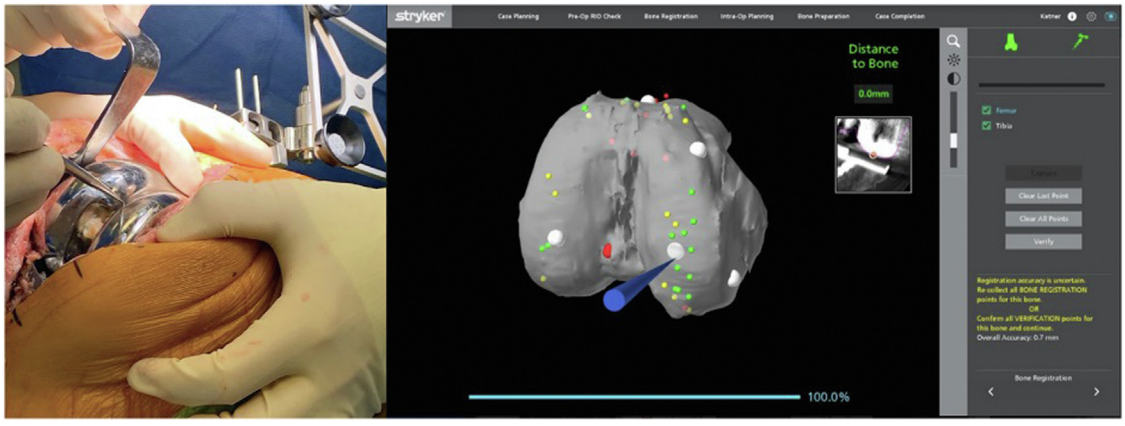

Figure 1. Intraoperative mapping directly off of patient current implants. The implants represent native bone for the preoperative plan and registration process [7].

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Figure 2. AP and lateral postoperative radiographs of right total knee arthroplasty revision utilizing robotic arm assistance. Implants used: Femur – Cemented Stryker Triathlon TS #5 with 15 mm × 50 mm stem, 10-mm medial and lateral posterior augments, and size 1-2 Tritanium cone; Tibia – Cemented Stryker Triathlon universal tibial baseplate size 4 with 12 mm × 50 mm stem, and size A Tritanium cone; Polyethylene – Stryker Triathlon X3, size 4 TS x 13mm; An Artisan Bone Plug Med was used in the tibia and femur [7].

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