Bone & Joint Open

Sheridan GA, Moshkovitz R, Masri BA. Simultaneous bilateral total knee arthroplasty. *Bone Jt Open*. 2022;3(1):29-34.

https://doi.org/10.1302/2633-1462.31.BJO-2021-0186.R1

5 September 2022

Authors' reply:

Sir,

We thank Drs Maheshwari and Shah for their interest in our work.[1] We read their questions with great interest and would like to address the various points they make.

The reason the first side was carried out by the trainee was surgical efficiency: by doing this, the trainee could close while the trainer was operating on the other side. No attempt was made to determine which side was done by the attendee based on complexity. We routinely start with the right side, regardless of complexity or severity, and the trainee does that side. As bilateral knee replacement is always done as the last case of the day, the trainee would have had plenty of practice during the day on other patients.

In most cases, the complexity of the two knees was similar: we have never abandoned a bilateral procedure and only done one side of a bilateral case. It is also not our experience that most patients report that the right side is worse.

The "trainees" referred to in the study were a mixture of senior residents and fellows. Our fellows come from various parts of the world, and not all of them are more skilled than our senior residents. We discourage our residents from declaring a future career path while on the rotation, because if they end up in a community practice, most will end up doing arthroplasty and trauma in addition to their chosen subspecialty. Most communities in Canada are too small to support a dedicated subspecialty practice.

The indication for an MUA was if a patient had not achieved 90°of flexion by six to eight weeks, provided they had this range of motion preoperatively. In our experience, many patients have different early results from the two knees: the MUAs were done for one knee only. The opposite knee would be examined under anaesthesia, and if a manipulation was needed, whether on the surgeon or trainee's side, it would have been counted in the five trainer-operated or seven trainee-operated knees. Basically, there was no difference in the rate of MUA between trainer and trainee.

We agree that trainees take longer to close. They do not take longer to open because under supervision they are moved along by the trainer. In a unilateral case, the trainer stays in the room to close with the trainee. Therefore, closure becomes irrelevant. In a bilateral case, the trainees close the first side, and then help to close the second side so, inevitably, the closure of the first knee will be slower. We do not have data to compare trainer and trainee closing alone, but we suspect that the trainee would be slower. The main point of the current paper is that training under supervision does not reduce efficiency. Having a trainee operate independently without a surgeon in the room (not allowed at our centre) would definitely reduce the efficiency of an operating list.

The tourniquet was inflated at the point of incision, and deflated immediately before starting to close, so it was indeed standardized. It is a surrogate for the time from incision to implantation, which leaves the duration of closure as the only remaining variable. The trainer was scrubbed and present for the entire procedure.

All patients were told that all or part of the procedure would be done by a trainee. As this was a retrospective study, specific a priori consent was not possible. Institutional Review Board approval was received before the start of the study.

In relation to the comment that some patients of American Society of Anesthesiologists (ASA) grade IV would be unsuitable for bilateral TKA, we suspect that there was an error of grading by the anaesthetist, reflecting the lack of precision of the ASA score. Patients with severe comorbidities would not be candidates for bilateral surgery.

G. A. Sheridan,
R. Moshkovitz,
B. A. Masri,
Department of Orthopaedics,
University of British Columbia,
Vancouver, British Columbia, Canada.

1. **Sheridan GA, Moshkovitz R, Masri BA.** Simultaneous bilateral total knee arthroplasty. *Bone Jt Open*. 2022;3(1):29-34.

Conflict of Interest: None