



## Bone & Joint Open

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

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Sir,

We read this study<sup>1</sup> with great interest and applaud the authors' vision and effort.

It is possibly the only study that directly addresses several concerns about a trainee's role in total knee arthroplasty (TKA). Most previous studies were carried out using an indirect methodology which differentiated between TKA operations based on the presence or absence of residents without defining their exact role and degree of participation.

We would appreciate it if the authors could clarify a few points.

Why was the first side done by a trainee and not by the trainer? In our experience,<sup>2</sup> patients usually prefer to have the more symptomatic, and often more complex, knee operated on first. By doing the more complex side first, the trainer can directly demonstrate the procedure to the trainee and highlight particular aspects of the case. This helps the trainee understand the steps and undertake the second side more expeditiously. On the other hand, we do understand that by doing the second side simultaneously, the trainer can save time during the steps that need relatively less supervision.

Why was the right side always operated on first, given that patients usually prefer to have the more symptomatic and more complex knee operated on first? Using the current methodology, there is theoretically a 50% chance that the trainee will have to address the more complex side, a more difficult and possibly longer procedure, creating bias in data collection. In our experience,<sup>2</sup> most patients report that the right knee is more symptomatic. We hypothesize that it may be related to handedness, as most surgeons are right-handed.

Who were the 'trainees' in this study? Residents or fellows? We assume that, in general, fellows would be more experienced than the residents; this will also depend on their 'experience' in their training cycle and the TKA surgery itself. For residents, was there any obvious difference based on their future career track, as level of interest and participation may differ (i.e. future spine surgeon versus adult reconstruction surgeon)?

There were seven manipulations under anaesthesia (MUA) in the trainee group compared with five in the trainer group. What was the indication for an MUA? Were the MUAs done for 12 different patients or were some carried out on the same patient? In our experience,<sup>2</sup> when MUA is required after bilateral TKA, it is usually undertaken on both sides to achieve a comparable range of motion. Stiffness on one side, especially with a flexion contracture, forces the patients to walk with a flexed knee on both sides (unless a shoe lift is used), as walking with one straight knee and one knee flexed is more difficult than walking on two flexed knees or two straight legs.

Most of the studies on this topic, including ones using a similar methodology,<sup>2,3</sup> have shown that a trainee takes longer to complete a TKA than their trainer. Is there any comparative data on operating time for the two groups? In our experience,<sup>2</sup> the most significant difference we found between trainee and trainer was in the 'exposure' and 'closure' times.

Tourniquet time was similar for both groups. Tourniquet time can be used as a surrogate for operating time if used for the whole case. When exactly was the tourniquet used in this study? Was its use standardized for all cases?

Was the trainer scrubbed and present for the whole procedure?

Were the patients aware of the study? Did all agree to participate? Were they aware which side was done by whom?

There were some patients with an American Society of Anesthesiologists (ASA) grade of IV. What was the indication and need for a single-stage bilateral TKA on a relatively unhealthy patient?

A. V. Maheshwari, MD, MPH, Director,  
Orthopaedic Oncology Service,  
Assistant Professor of Orthopaedic Surgery,  
N. V. Shah, MD, MS,  
Department of Orthopaedic Surgery and Rehabilitation Medicine,  
State University of New York (SUNY) Downstate Health Science University,  
Brooklyn, New York, USA.

1. **Sheridan GA, Moshkovitz R, Masri BA.** Simultaneous bilateral total knee arthroplasty. *Bone Jt Open.* 2022;3(1):29-34.
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Conflict of Interest: None