







# Answer to the Letter to the Editor Regarding the Article “Radiological Evaluation of Postoperative Alignment in Total Knee Arthroplasty”

## *Resposta à carta ao editor referente ao artigo “Avaliação radiográfica do alinhamento pós-operatório na artroplastia total de joelho”*

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We thank you for the considerations made to our article through a letter to the editor presented by colleagues regarding the article “Radiographic Evaluation of Postoperative Alignment in Total Knee Arthroplasty” – *Rev Bras Ortop* 2021 (<https://doi.org/10.1055/s-0041-1726061>) (efirst).<sup>1</sup> In our article, we tried to demonstrate the greater accuracy of panoramic radiographs of the lower limbs (long) in relation to short radiographs of the knee in the measurement of the mechanical axis of the lower limb after total knee arthroplasty (TKA). We considered valid the observation about the time of performance of the radiography and the fact that a possible attitude in flexo and external rotation could lead to a positioning bias. The fact that long radiographs are performed in bipodal support when patients are still hospitalized in our hospital occurs at a time when analgesia is adequate, reducing the intensity of the pain. We routinely perform saphenous nerve block in the adductor canal with sonographic control, which enables knee analgesia without

motor loss of the quadriceps.<sup>2</sup> Thus, the patients are able to start the support early, which accelerates their postoperative rehabilitation and decreases the possibility of difficulty being in the position of orthostasis and, therefore, performing the examination.

It is worth mentioning that all short radiographs used in the evaluation were obtained directly from the panoramic radiography itself, as stated in the section of materials and methods of our article, precisely to avoid the influence of possible rotations in the performance of new radiographs.<sup>3</sup> Thus, the comparative analysis performed decreased the chance of bias in relation to positioning, even if it did not totally exclude it. In addition, we consider the suggestion of colleagues to be valid to be investigated in a future study, comparing the analysis of long radiographs in the immediate postoperative period and six weeks later, in order to evaluate possible interferences of immediate postoperative situations. We remember that Abu-Rajab et al.<sup>3</sup> do not

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recommend x-rays in six weeks, but do perform them as a routine currently. So, the study proposal is valid.

Although the anatomical axis is the only axis that is actually reproducible on short radiography, Felson et al.<sup>4</sup> showed that the agreement between the measurement of the anatomical axis on short knee radiography and the measurement of the mechanical axis on long radiography is only moderate. In another study, by the Multicenter Osteoarthritis Group,<sup>5</sup> the authors concluded that there are significant limitations to the use of the anatomical axis to predict the alignment of the lower limbs, especially when an accurate measurement of the mechanical alignment is necessary. We used as reference other published studies that applied this methodology to try to predict the measurement points of the mechanical axis.<sup>3</sup> Thus, it was possible to compare their results with those obtained by our group. Then, we reproduce a methodology already widely presented in the literature and used in several studies.

We consider that the suggestion about the postoperative time to perform panoramic radiography may be the object of a future study, as a way of comparing the results obtained by different observers in the highlighted period. Regarding the use of the tibiofemoral anatomical axis in the postoperative period of TKA, we recall that the literature is conflicting in relation to the use of this measure; therefore, we chose to follow the methodology of studies previously performed in order to obtain comparative results.

#### Conflict of Interests

The authors have no conflict of interests to declare.

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