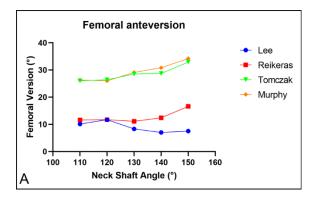
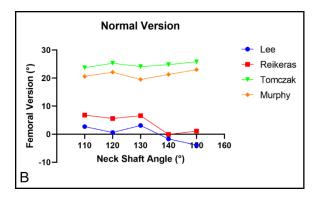
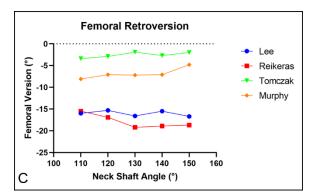


## **Supplementary Material**

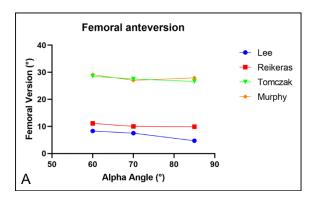
## 10.1302/2633-1462.310.BJO-2022-0102.R1

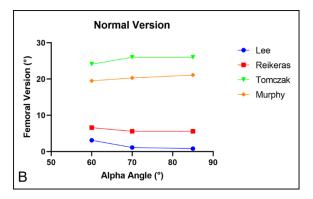


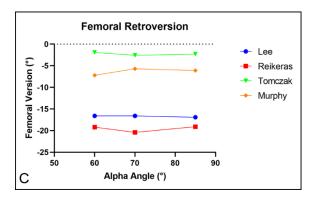




**Fig a.** The neck-shaft angle associated changes in femoral version in the parametric analysis depending in the model with a) femoral anteversion, b) normal femoral version, and c) femoral retroversion.







**Fig b.** The alpha angle associated changes in femoral version in the parametric analysis depending in the model with a) femoral anteversion, b) normal femoral version, and c) femoral retroversion.