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## **Telerehabilitation for Total knee arthroplasty: Is there an issue related to virtual treatment without hands-on mobilisation for knee range of motion recovery?**

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One of the limit highlighted of telerehabilitation is the fact that professional cannot have hands-on mobilisation directly on his patients. In some circumstances, this is not a challenge. However, in some others we could argue that hands-on mobilisation could be required like in post-knee arthroplasty range of motion recovery. This research question was addressed as secondary outcomes in a randomised trial on the effectiveness of in-home telerehabilitation (TELE) compared to home visits (CONTROL) following knee replacement surgery (total knee arthroplasty [TKA]). Two hundred and five patients who received TKA were recruited prior to discharge from hospital and were randomly assigned to TELE or CONTROL intervention group. Both groups received the same rehabilitation intervention consisting of 16 supervised exercise sessions, twice a week, over the 2 first months after hospital discharge. Same program based on functional exercises was offered to participants of both groups. Extension/flexion range of motion [ROM] were measured using standardized outcome measures in face-to-face evaluations by a blind evaluator. The evaluations took place: 1) before TKA (E1), 2) at discharge (E2), 3) at the end of the intervention - 2 months post-discharge (E3)). An intend-to-treat analysis was performed to test the main research hypothesis: Mean improvement extension/flexion ROM at E4 in comparison to baseline (E1) will not be inferior in the TELE group compared to the CONTROL group. Difference between E4 and E1 adjusted for preoperative measures (n=198 patients) was the same between TELE and CONTROL group for all outcome measures: extension ROM (0.01o, 95% CI [-1.01, 1.04]), and flexion ROM (1.08o, 95% CI [-2.12, 4.28]). The results confirm the fact that virtual or face-to-face rehabilitation in not an issue for range of motion recovery after TKA.

### **Biography**

Michel Tousignant has a Bachelor's degree in Physiotherapy (1979; Université Laval), a Master's degree in University Pedagogy for Medical Sciences (1987; Université Laval), a PhD degree in Public Health (2000; Université de Montréal) and a Fellowship in Economic Evaluation (2003; Université de Sherbrooke). He is currently the Director of the Research Centre on Aging, as well as a full Professor and Program Director of the School of Rehabilitation at the Université de Sherbrooke. He received several research grants as principal researcher or co-researcher. He published approximately 50 articles and presented close to 90 local, national and international communications.

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