



Rehabitic

Rehabitic is a telerehabilitation service for patients who have undergone total knee arthroplasty, set up by the Mar Health Park at the Hospital de l'Esperança in collaboration with Telefonica. The objective was to take rehabilitation therapy to the patient's home, thus reducing the number of journeys and improving the treatments with the highest clinical and control guarantees.

The objective was to compare the effectiveness of a new interactive virtual telerehabilitation service (IVT) with the conventional programme after a total knee arthroplasty (PTX). To do this, the following was designed:

- Individualized rehabilitation plans at home and control of results by the physiotherapist in real time and asynchronously.
- Knee supports with sensors and accelerometers connected to the tactile devices recording the progress made by the patient.
- Technologies based on biometric devices, communications networks, distance education systems, videoconferences and Wi-Fi.

The elicited results showed that the basal features between groups were comparable. All participants improved two weeks after the intervention in all variables and patients from the groups with telerehabilitation gained improvements in functional variables that were similar to those obtained by the group following a conventional therapy. In conclusion, it can be said that the two-week telerehabilitation programme is at least as effective as the conventional therapy. Therefore, telerehabilitation is a promising alternative to traditional on-site therapies once the patient has been discharged from hospital after a total knee arthroplasty; and is especially positive for patients faced with difficulties to reach the rehabilitation centres.

The pilot project suggests that this technology also offers the added advantage of reducing the number of sessions per person at the rehabilitation centre (five fewer than for the control group of our study) and using the costly medical transport. Finally, we believe that patients benefit from a more intensive and independent rehabilitation service when the system is available to them at their home. The easiness to access the equipment, the programme and the therapist allows them to repeat the rehabilitation session more than once a day safely and systematically, if they wish to do so, and can help motivating them to participate in therapeutic exercises. This could also set a new paradigm for conventional rehabilitation in other clinical settings.

Video on the project: <http://www.parcdesalutmar.cat/mar/Rehabitic.html>