

THE EFFECTIVENESS AND COST-EFFECTIVENESS OF THE CO-ADMINISTRATION OF MINDMOTIONPRO PLUS STANDARD PRACTICE VERSUS STANDARD PRACTICE IN EARLY POST-STROKE UPPER LIMB REHABILITATION:

THE MOVE-REHAB STUDY

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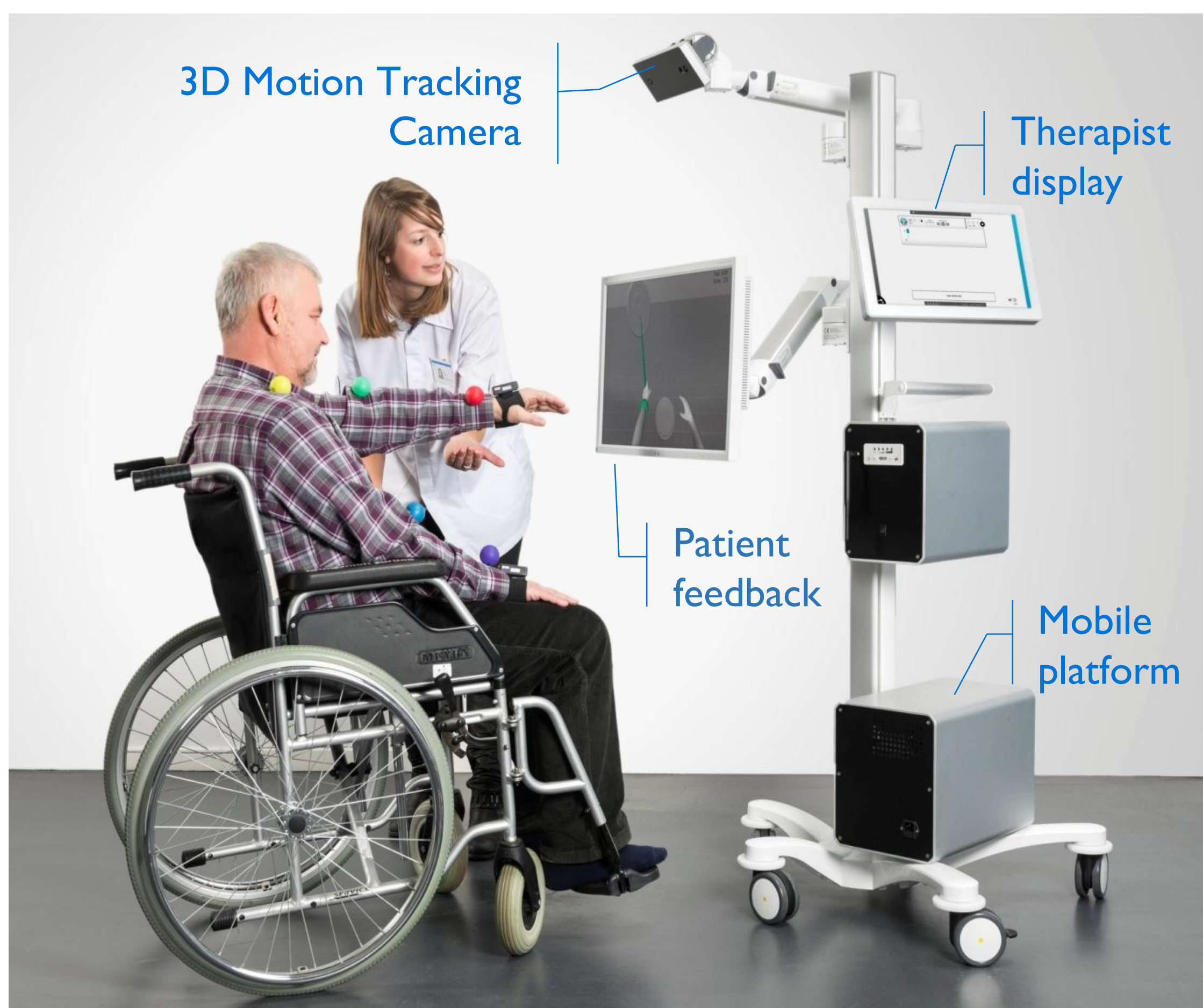
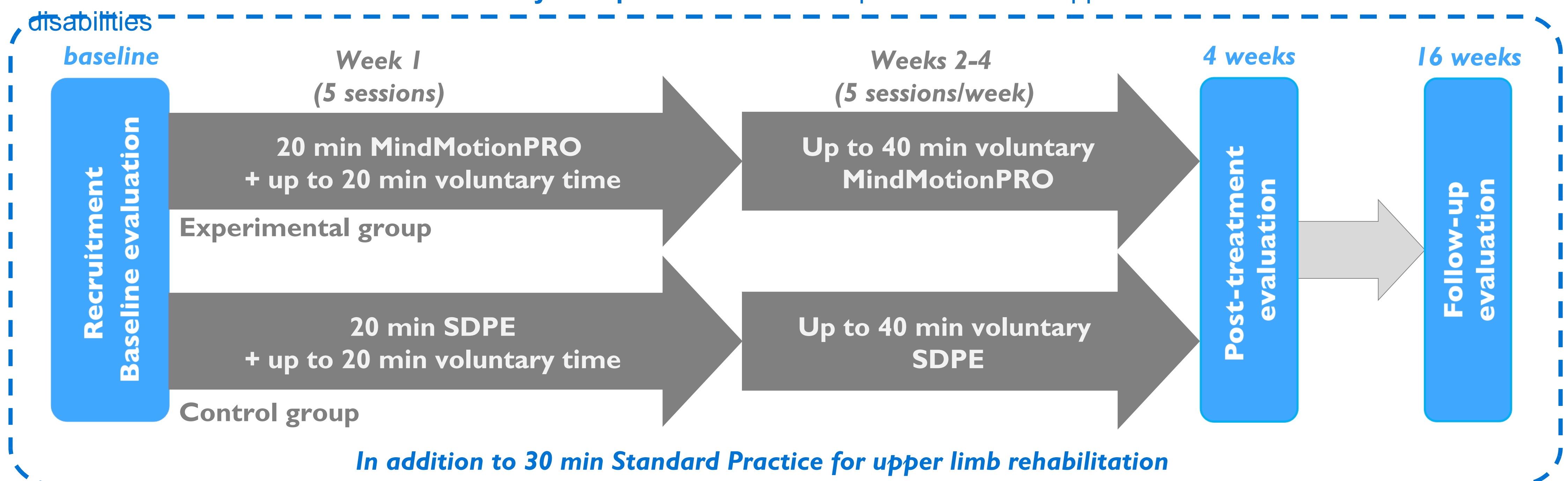
BACKGROUND

- **Stroke** survivors often experience **motor disabilities**, limiting their independence in performing daily activities. Recent studies suggested that effective post-stroke rehabilitation should be challenging, repetitive, task-specific, motivating and intensive to foster greater **neuroplasticity**.
- **Virtual Reality (VR) based training** has been shown to be an effective complement to standard rehabilitation, especially in intensifying the **therapy dose** and maintaining **patient motivation**.
- **MindMotionPRO** is a Class I medical device providing immersive VR-based training for upper extremities with 3D motion tracking and real-time visual feedback.

OBJECTIVE

- To compare the **rehabilitation dose** between an experimental group using standard rehabilitation plus MindMotionPRO and a control group following Self-Directed Prescribed Exercises (SDPE) in addition to standard rehabilitation.

Multicentre randomized controlled study – 42 patients 1-6 weeks post-stroke with upper limb disabilities



INTERVENTIONS

- **MindMotionPRO:** Upper extremity rehabilitation exercises in a virtual reality environment, with integrated concepts of **constraint-induced therapy**, **mirror therapy**, **action-observation therapy**, and **motor imagery**
- **Self-Directed Prescribed Exercise (SDPE):** Upper extremity rehabilitation exercises following the **Graded Repetitive Arm Supplementary Program (GRASP)**

OUTCOMES

- **Primary Outcome:** Time spent in active rehabilitation and number of exercises performed by the patient
- **Secondary Outcomes:**
 - Motor function and clinical assessments (Fugl-Meyer Assessment for Upper Extremities, streamlined Wolf Motor Function Test, Barthel Index, Stroke Impact Scale, NIH Stroke Scale and Motor Activity Log)
 - Motivation (Intrinsic Motivation Inventory)
 - Resources utilization (therapist time)

INCLUSION CRITERIA

- Male/Female > 18 years
- First anterior or middle cerebral artery ischemic or hemorrhagic stroke
- 1 to 6 weeks post-stroke
- Motor difficulties in using paretic arm with FMA-UE between 20 and 40
- Stroke severity according to NIHSS score between 5 and 14
- Able to provide informed consent
- Not currently participating in other intervention studies

EXCLUSION CRITERIA

- Any medical condition compromising the safety or ability to take part in the study, including upper limb conditions not linked to stroke and co-morbidities
- Recurrent and moderate-to-high upper limb pain limiting rehabilitation dose
- More than one or uncontrolled epileptic seizures since stroke onset
- Mild to severe cognitive impairment (Mini Mental State Exam < 24/30)
- Depression (Hospital Anxiety and Depression Scale > 8/21)
- Moderate to severe hemispatial neglect (Bells tests > 6 errors)

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