

**Daiana Popa. MD, Ph.D***Clinical Rehabilitation Hospital Felix Spa, Romania**General Secretary of the Romanian Society of Rehabilitation Medicine***Role of Physicians and Allied health Professionals in robotic rehabilitation: how to improve the patient motivation and confidence.**

Rehabilitation robotics have been developed to support rehabilitation of patients after stroke, spinal cord and brain injuries, in particular addressing various motor and functional impairments. Their other benefits include decrease therapist's burdens, increased number of repetition and exercise intensity, increase motivation and enhanced productivity.

The goal of robotic rehabilitation devices should be to assist therapists in performing a diversity of exercises that give their patients the best chance of a functional recovery. Robots are currently viewed as advanced therapy tools under a therapist's guidance. Nevertheless several barriers have been identified, in implementation of the robotic rehabilitation as the lack of the evidence based protocols of treatment, the adherence of the user to therapy or the therapist's acceptance of technology.

The possible therapist's fear of skill replacement by a robot should be counteract by "upskilling" of the therapist to cater for role modifications, refining of goal setting with a robotic interface, addressing expectations of patients exposed to technology and innovative prescription of combined therapies. An appropriate collaboration with provider companies is required to facilitates knowledge dissemination, specific training, skill transfer, and important technical support.

During the therapy it is necessary to provide an adequate feedback that motivates the patient. Using gamification and virtual reality systems are among of the most use solution for this purpose. However, it is important not only the way in which the feedback is given but also the information provided to the trainer. Therapists may use the visual feedback to show to the patients the level of improvement, the percentages of robot and patient work, or kinematic data relevant for the patient's progress.

Implementation process should face with different challenge as communication barriers within team, delivery of robotic training integrated with conventional therapy, and collection of clinical and robotic-related assessment data. An appropriate implementation plan of new rehabilitation technologies should be undertaken by all members of the multidisciplinary team, including administration. A careful clinical implementation allows staff to familiarize and adapt to devices, robot-patient interactions and training protocols. However, the implementation phase requires sometimes increased energies, time, and staff motivation rather than a sudden reduction of manpower, in the benefit of productivity expected from the robotic technology.

Nowadays many new developments in the robotic technologies include light-weight devices, incorporation of motivational elements and educational tasks to provide user-friendly access to technology and empower both therapists and patients to be active involved in effective rehabilitation. A successful integration of robotic technology in clinical practice relies in allowing humans (patients, families, and healthcare professionals) to understand technology, to change and adapt their practices, as well as to adopt and finally sustain.