



CONCERTO

Concerto is the technological solution to guarantee the patient's continuity of active rehabilitation treatment of the upper limb, from hospital to home, with remote control by the clinical specialist.

Thanks to **CONCERTO** rehabilitation therapy **does not end** when the patients are discharged. The same **motor and neurocognitive exercises** that the patients learned to do in the gym with Aria are available at home, under the supervision of the same professional who took care of them during the treatment period in the facility.

Patients at home carry out rehabilitation sessions set by the clinical specialist. The possibility of customizing parameters and the auto-adaptive level of difficulty of the proposed interactive games ensure continuity of motivation and involvement, even in home treatment.

A set of ready-to-use tools at the patient's home:

- a portable PC with dedicated software already installed,
- a sensor able to detect free movements of the upper limb in space,
- a dynamic support that compensates the arm weight.

No initial calibration is required from the patient, nor does the caregiver need to carry out any setting up or adjustment. Once the sensor is connected to the PC, therapy can begin immediately.

The **asynchronous remote control** does not oblige practitioners and patients to be connected simultaneously: at any time the rehabilitation specialist can view sessions data performed by each patient, evaluate results, download report files (pdf or xls), and modify exercise parameters.

The patient has the security of always performing up-to-date therapies according to the latest clinical prescription.

Thanks to Concerto, the network between the rehabilitation centre and the territory is strengthened: a simple and reliable system that guarantees patient data protection and privacy and facilitates the preservation and improvement of the clinical results achieved through treatment in the gym.

PATIENTS CAN CONTINUE REHABILITATION TREATMENT AT HOME, WITH OR WITHOUT DYNAMIC ARM SUPPORT



TELECONTROL: THE CLINICAL SPECIALIST SUPERVISES SESSIONS CARRIED OUT AT HOME



CLINICAL REFERENCES



Dr. Luciano Bissolotti
Domus Salutis Rehabilitation Center
Italy

“ I had the opportunity to realize how much the robotics, in particular Sinfonia, was able to quickly act to the mutual satisfaction of the clinician and the patient. In particular, within a few sessions, it was immediately possible to record a reduction in focal spasticity with a significant reduction in the Ashworth scale values ”



Dr. Franco Molteni
Villa Beretta Rehabilitation Center
Italy

“ The movement is experienced, imagined and perceived by the patient, thanks to the execution of activities the glove makes possible ”



Ulrich Thiel
Hellmuth & Thiel Praxis
Germany

“ Gloreha glove offers the patient the possibility to feel the object, grasp it autonomously and to benefit of a high quality proprioception stimulation ”



Tatiana Jeglic
Center Fizioterapije Ljubljana
Slovenia

“ I chose Gloreha because it allows the patients to really feel and manipulate the objects, and also bimanual or bilateral activities. We can really improve their ability to perform their daily life activities in better quality of movement ”



 **MULTIDISCIPLINARY REHABILITATION PROJECT**

 **GLOREHA DEVICES FOR ALL PHASES OF REHABILITATION**

 **GLOREHA IS AGELESS: CHILDREN AND ADULTS**

 **COMBINED FUNCTIONAL, COGNITIVE AND MOTOR REHABILITATION**

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Clinical indications

Gloreha devices are extensively used on neurologic patients with motor and/or cognitive deficits. They can be effectively applied in sub-acute as well as in chronic phase to support distal, proximal, functional and cognitive recovery.

The most frequent indications are: Stroke, Traumatic Brain Injury, Spinal Cord Injury, Cerebral Palsy, Parkinson's Disease, Peripheral Neuropathies, Neurodevelopmental Disorders.

Gloreha devices can also be useful supports in the treatment of patients with **musculoskeletal disorders** and in the post-operative stage.

“ According to recent literature, the hand rehabilitation program with Gloreha provides an intensive, repetitive, functional, task oriented, specific, and customizable treatment. [...]

The exercises with devices work on plasticity in the central nervous system due to the neuromotor, audiovisual feedback: the multisensory action-observation system enables patients to re-learn impaired motor function through the activation of internal action-related representations. [...]

Our results showed a great improvement on the ADL and positively marked functional recovery of motor function. An important aspect of our study was the association of robotic therapy with the traditional rehabilitation-based approach of physiotherapy and OT to provide more full and intensive sessions to improve the outcome. ”

Milia P, Peccini MC, De Salvo F, Sfalдарoli A, Grelli C, Lucchesi G, et al. Rehabilitation with robotic glove (Gloreha) in poststroke patients. Digit Med 2019;5:62-7

“ Robot-assisted training using the Gloreha device demonstrated beneficial effects on body structure and function, including upper extremity motor function, brachioradialis muscle recruitment, and coordination, in children with Cerebral Palsy. The beneficial effects were maintained 1 month after training termination. ”

Kuo FL, Lee HC, Hsiao HY, Lin JC. Robotic-assisted hand therapy for improvement of hand function in children with cerebral palsy: a case series study. Eur J Phys Rehabil Med. 2020 Apr;56(2):237-242. doi: 10.23736/S1973-9087.20.05926-2. Epub 2020 Jan 14. PMID: 31939267.

“ Gloreha glove is feasible and effective in recovering fine manual dexterity and strength and reducing arm disability in sub-acute hemiplegic patients. [...] Patients in the treatment group significantly improved the motor function of the paretic upper limb (Motricity Index), their coordination and mono-manual dexterity (Nine Hole Peg Test) and strength (Grip and Pinch) in contrast to controls, and the cost savings was considerable. ”

Vanoglio F, Bernocchi P, Mulè C, Garofali F, Mora C, Taveggia G, Scalvini S, Luisa A. Feasibility and efficacy of a robotic device for hand rehabilitation in hemiplegic stroke patients: a randomized pilot controlled study. Clin Rehabil. 2017 Mar;31(3):351-360. doi: 10.1177/0269215516642606. Epub 2016 Jul 10. PMID: 27056250.

Clinical benefits

- Maintenance and improvement of the joint range
- Proprioceptive stimulation
- Improvement of visual-spatial and attentive skills
- Increase in functional independence
- Reduction of pain, oedema and hypertonia
- Prevention of adhesions, contractures, and immobilization damages
- Improvement of joint metabolism, lymphatic and blood circulation
- Maintenance of functional skills and body perception
- Increase in coordination and dexterity
- Increase in grip and pinch strength



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