

THERAPY & PRACTICE

# Intensive continuous therapy for paraplegia

For some 23 years now, patients with spinal cord injuries have been treated at Centro Giusti, a private institute of physical medicine and rehabilitation in Florence (Italy). The institute follows the "Riabilitazione Intensa e Continuativa" (RIC) approach, a specially developed treatment concept. RIC is intensive continuous therapy. The continuous adaptation of the therapeutic setting and treatment intensity are essential core aspects of the concept. Depending on the performance level, the duration and dose of therapy are progressively increased to achieve continuous

improvements. The therapy takes into account the principles of motor learning. Task-oriented training is particularly central in gait therapy.

Modern emergency medicine and numerous advances in technology have greatly improved the care of patients with spinal cord injuries over the last decade. Improvements that have long been considered unattainable can now be achieved with new therapeutic procedures and the use of specific treatment methods. Dr Wise Young, a neurologist at Piscataway University (NY), puts it in a nutshell. In one of his publications he writes: "Recovery after





a spinal cord injury is no longer the exception, it is the rule." For this to be true, functional improvement must be the goal of therapy and pursued with the necessary intensity.

This is where RIC comes in. It consists of several core components: task-oriented training (standing, walking), movement therapy for bones and joints (stretching, mobilisation) and physical therapy (massages, electrotherapy, vibration therapy).

"As the medical director of the rehabilitation centre, I have three main goals with RIC," explains Prof. Arcangeli, who has developed the concept

significantly. He is convinced that "therapy in patients with spinal cord injuries must be personalised, intensive and sustained."

Given that clinical images often vary widely, patients need to be given therapy tailored to their specific needs. And the right dose plays a decisive role. "Patients undergo an intensive treatment programme that runs on at least five consecutive days in the week, during which patients take part in functional activities for at least four to six hours a day," explains Arcangeli. "The desired healing process often only materialises after more than



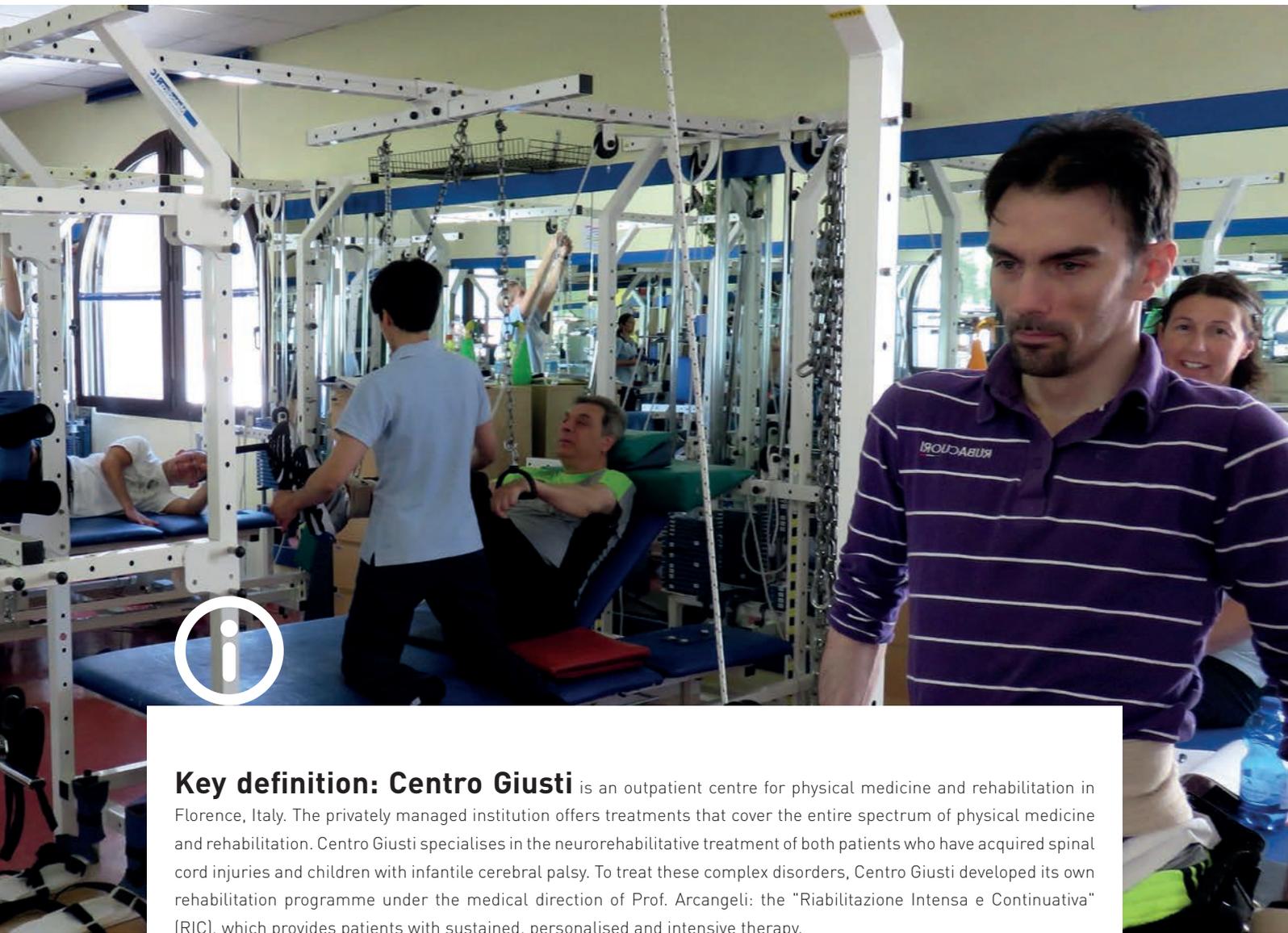
a year of rehabilitation, so plenty of time must be given for treatment." In this respect, it is very

## *Walking has to feel natural.*

important that the therapy is constant.

The overall objective of all measures is to restore maximum autonomy and independence

for the patient. Regaining the ability to walk is critical to this, which is why it is worked on as early as possible. Patients practise the action of walking in a basic physiological standing position with as little support as possible. "It has to feel natural," says Arcangeli. "This is the only way to give psychological stimuli, which are just as important as the necessary physiological stimuli." By practising walking by walking, patients feel they have some level of self-efficacy during gait therapy.



**Key definition: Centro Giusti** is an outpatient centre for physical medicine and rehabilitation in Florence, Italy. The privately managed institution offers treatments that cover the entire spectrum of physical medicine and rehabilitation. Centro Giusti specialises in the neurorehabilitative treatment of both patients who have acquired spinal cord injuries and children with infantile cerebral palsy. To treat these complex disorders, Centro Giusti developed its own rehabilitation programme under the medical direction of Prof. Arcangeli: the "Riabilitazione Intensa e Continuativa" (RIC), which provides patients with sustained, personalised and intensive therapy.

"This increases motivation and helps them to pursue, and ultimately achieve, their own goals energetically."

The training programme includes practising independent movement transitions (sitting to standing) in addition to tasks to improve balance and coordination.

RIC also envisages the targeted use of modern rehabilitation equipment such as the THERA-Trainer e-go. The mobile training device makes it possible to carry out safe gait training, during

which patients can move freely around the clinic. "This allows patients to regain a sense of security and feel that training is helping them to regain their autonomy and independence," says Arcangeli.

"The aim of the RIC concept is to improve the motor skills of patients as much as possible. For this to happen, it is essential that the patient actively participates in the rehabilitation process. And it's also very important from a psychological point of view."