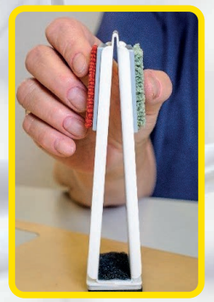
Now, the therapist's main task is making the patient aware of certain things going on in his/her body. With the therapist's help, the patient has to learn to feel, which movements are wrong and which are correct, how the muscles should feel so that he/she can carry out fluent, normal movements.

Not the therapist's manual work should change the patient's "spastic" muscles but the patient's active thinking and feeling. By using the attention and perception, the patient learns complex strategies like:

- How do I have to stand up in order to avoid that my hand becomes firm?
- How do I have to think and feel in order not to elevate my pelvis while walking?
- Where do I have to concentrate on so that I can carry out a movement correctly?
- What do I have to feel in order to know if I am sitting upright?
- How do I have to act in order to get no pain?
- How can I bring my body into a relaxed situation?



Successive learning steps

At the beginning, with the so-called **first-degree exercises**, the movement is guided only by the therapist. The patient does not have to perform any active movements but, with his/her eyes closed, he/she may concentrate exclusively on feeling.

For example, he/she is instructed to feel different positions of the knee joint or to sense different figures or surfaces over which the fingertip or the whole hand is guided.

This feeling requires 100% of concentration and, therefore, it is also exhausting not physically but mentally. So the patients are quite exhausted after the therapy.

Sequentially, with the **second-degree exercises**, the information should be taken by the motoric help of the patient.

The therapist's support should only be given to such an extent as to avoid defective movements and that, for example, the patient's hand keeps on being relaxed.

With the **third-degree exercises**, the patient gradually takes over the movement so that he/she can finally perform the movement autonomously and correctly.

So the **Neurocognitive Rehabilitation** represents a successive learning process during which the therapist not only should focus on the patient's perception and attention but also on the patient's personal interests, his/her characteristics and his/her life story.

Independently from the severity of the illness, the "**Neurocognitive Rehabilitation**" provides a possibility for the patient to understand his/her body better so that he/she is able again to participate actively and autonomously in his/her daily life/work.

What can you do if you are interested?

- Ask your therapist or your physician in charge
- Use the possibility of information via the internet page www.vcfr.de or e-mail to info@vfcr.de

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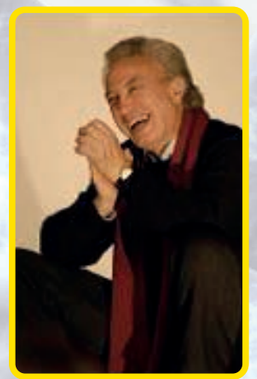
Information for patients!

Professor Carlo Perfetti –

was **the** Europe-wide known Italian neurologist and rehabilitation physician.
For decades, he had been engaged in the development of the neurorehabilitation.
In the 1970s, he started developing his own therapeutic concept which is now very successful and is based on scientific findings.

This form of therapy is especially suitable for the following disease patterns!

- Neurological disorders like: stroke, craniocerebral injuries, Parkinson's disease, Multiple Sclerosis, brain tumors, spinal cord injury, CP (children)
- Peripheral nerve lesion
- Disorders in movements and perception after injuries/ fracture/inflammation
- Pain patients, CRPS patients



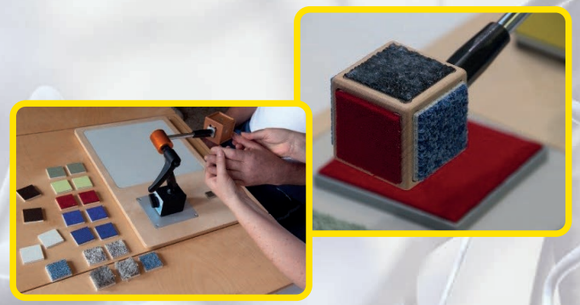
the joint learning of patient and therapist as equal partners was one of the basic principles of Professor Perfetti

„Cognitive therapeutic exercises" or the Neurocognitive Rehabilitation

The philosophic basis for this therapeutic concept constitutes the „systemic point of view". This means that the abilities of a person like **movement, perception and mental performances** may not be considered separately but as a functional unity which enables the recognition only in connection, in cooperation.

"Cognitive" is originally from the Latin word "cognoscere" which means "to recognize". The apparently simple taking of a glass is a complex recognition process: the recognition of the joints' position, the muscle tension, the smooth glass surface, the weight and some more. Therefore, the perception plays an important role in the cognition process. Only if the body awareness is intact, the brain receives that important information from the body and the environment necessary for planning and executing the movements.

So the perception constitutes an important part of the movement. Movement produces information and this information enables the development of movements. If this circle of information is defective, no physiological, normal movements can be produced.



The **attention** is also very important. It is not possible to learn specifically without purposeful concentration, no matter in what area. By closing the eyes during the exercises, the concentration may be directed more easily to the body. The patient is only able to receive information from the body, for example recognizing different guided movements of the leg, if he/she is concentrating on this area of the body or sensing this area, respectively.

With this, the aim is that the brain areas responsible for this body part are activated.
Not only by consciously sensing this area but also by **imagining movements** – this means the imagination of motion sequences – the learning process is to be facilitated.

The patient feels or imagines movements at his/her non-affected arm and is taught to imagine this movement in the same way at the affected arm. With this, he/she already gets an idea how the movement should be carried out correctly.

By "recognizing", we always compare with experiences made in the past which activates the memory. Therefore, the explicit comparison of the patient's feelings experienced during the exercise and the memory of his/her previously normal movement has become an essential part of the learning process.

Differences to other therapeutic concepts

In other therapeutic concepts, the therapist "works on" the patient's arm, leg or also the trunk with different manual grasps. During this, the patient is mentally involved only slightly or not at all. You can say that he/she makes "his/her body available".

The aim of the Neurocognitive Rehabilitation primarily is the reorganization of the brain in order to restore the planning of movements and, as a consequence, to facilitate normal movements.

By having suffered from a stroke, not the muscle was damaged but the brain. Now the brain can carry out his work, the control of the muscles, only in a limited manner.