

# Ecological test of San Pellegrino Terme

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1 - walking on the sidewalk



2 - crossing the street at a zebra crossing



3 - crossing the street at a traffic light



4 - asking for informations



5 - changing money at a bank

**Summary:** after severe craniocerebral accident patients have problems with everyday life activities. We tried to find something easy and affective that can test them and can give some advice to improve them.

**Introduction:** we tried to find an ecological test that can prove the evolution of the motor, cognitive and behavioral abilities in patients affected by sequelae of severe craniocerebral accident (trauma, hemorrhage or brain surgery) during their everyday life activities. The purpose of the test is to optimize and personalize the rehabilitation strategies.

**Materials and Methods:** we tested 100 people, 80 men (age average 40) and 20 women (age average 45).

- 50 patients had traumatic brain injury,
- 30 patients had cerebral hemorrhage and
- 20 patients underwent a brain surgery.

Every patient had a preliminary psychiatric, neurological and neuropsychological evaluation, in order to consider their motor and cognitive deficiencies, their self-consciousness of their condition and their motivation to follow the program. Each patient, followed by one of the staff of the Rehabilitation Unit, is tested outside the Clinic along the main street in the town.

The test is based on 10 activities:

- |   |   |
|---|---|
| 1) walking on the sidewalk;                 | 6) ordering something in a bar;               |
| 2) crossing the street at a zebra crossing; | 7) writing and sending a postcard;            |
| 3) crossing the street at a traffic light;  | 8) buying the newspaper at a newsstand;       |
| 4) asking for informations;                 | 9) phoning from a call box with a cell-phone; |
| 5) changing money at a bank;                | 10) shopping in a shop.                       |

Judging how each activity is carried out, a score is given, as showed in the following scheme:

The activity is carried out correctly without help..	3 points
The activity is carried out without help but with some difficulty .....	2 points
The activity is carried out only with help .....	1 point
The activity is not carried out whatsoever .....	0 point

During the test the examiner takes note of the following possible cognitive problems: disorder of attention, memory, executive functions and problem solving, topographic orientation, oral and written language, calculation, ideational praxia, visual perception; furthermore the presence of anosognosia, behavioral disorder, sensorial and motor deficits is monitored. Any information is then given to the physiotherapists, the speech therapist and the neuropsychologist to enable them to work out the most appropriate rehabilitation treatment.

**Results:** Through these rehabilitation strategies we achieved:

- Better overall evaluation of patients
- Better consciousness of the patients and their relatives about the difficulties to carry out everyday life activities
- Strategies for the reinstatement of the patients at home, at school and at work
- The test shows possible emotional and behavioral disorder

**Conclusions:**

- The test can be defined ecological because it involves everyday-life activities carried out outside the Clinic;
- The test is easy to do and the patients like it because it tests them outside the Clinic. It's a way to involve and motivate more the patients in their rehabilitation treatment;
- The test can be done weekly so that it can show the learning abilities and record the improvements;
- The test completes the work that is done in the gym (motor training) and in the laboratory and during the occupational therapy (cognitive training);
- It helps to verify whether the goals are achieved and how are the patients' abilities to do everyday-life activities while they are staying in the Clinic;
- It also gives useful advice to give to the patients' relatives about how to handle patients once they are back home.



6 - ordering something in a bar



7 - writing and sending a postcard



8 - buying the newspaper at a newsstand



9 - phoning from a call box



10 - shopping in a shop

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