



# COGNITIVE REHABILITATION

**Neuropsychological rehabilitation** (clinical settings)  
**Reablement or restorative care** (community settings)  
**Tertiary prevention** (public health)

## KEY POINTS

- To manage memory and executive difficulties that affect daily life and to alleviate psychological difficulties related to cognitive disorders.
- This intervention involves cognitive, psychological and social processes.
- Observed effects are a reduction in the impact of cognitive disorders on daily life and the maintenance or even improvement of functional autonomy.
- For individually or with support of family caregivers.
- For people with early-stage cognitive impairment where memory impairment is predominant (Alzheimer's disease and vascular disease).

## PRESENTATION

### A. Definition

Cognitive rehabilitation for people with dementia is a behavioural therapy for managing the impact of cognitive impairment on everyday life<sup>[1]</sup>. It does not aim to cure dementia but to enable the optimal level of functioning despite the condition. The focus is on achieving personal goals relating to activities of daily living and social engagement; the ultimate goal is to improve quality of life and well-being. Cognitive rehabilitation is built on goal setting and problem-solving approaches. It can be seen as a toolbox of compensatory aids and enhanced learning techniques to facilitate new learning, reduce impairment, and build upon strategies to facilitate the process that can all be combined into a personalised intervention<sup>[2]</sup>.

### B. Fundamentals

Cognitive rehabilitation was originally developed as an intervention to remediate cognitive impairment following brain injury. It started as a set of mechanistic exercises engaging cognitive abilities (i.e., brain training) and evolved into an individualised, collaborative, and holistic program focused on regaining competence in everyday situations. In brain injury settings, it promotes alleviation of the underlying impairment while offering practical ways to bypass associated difficulties such as changes in mood, motivation or communication, and relationships problems<sup>[3]</sup>. While it is not possible to improve the underlying impairment in dementia, the approach is relevant for mitigating the impact of cognitive difficulties on everyday life and it serves as a valuable framework for conceptualising dementia care<sup>[4]</sup>.

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## THEORETICAL BACKGROUND

### A. Processes involved

**A course of cognitive rehabilitation can be divided into four stages<sup>[1]</sup>:**

- 1 The first step is to gain a thorough understanding of the person's current level of functioning within a broader family and social context, and in relations to past experiences, assets and expectations. This is a crucial time for establishing trust and setting a tone for the collaborative work ahead.
- 2 The second step involves identifying the person's key areas of dissatisfaction and subjective priorities for improving the current situation, and then refining them into clear therapy objectives (goals) using SMART principles (Specific, Measurable, Attainable, Relevant, Time-limited). As part of this collaborative process, the practitioner assesses the demands of the tasks, the person's cognitive ability and non-cognitive barriers and available resources, ensuring the eventually agreed therapy goal is potentially achievable as well as relevant and inspiring for the individual with dementia.
- 3 Finally, the individual therapy plan is developed in order to bridge the gap between the person's current ability and the demands of the goal-related activities.
- 4 Progress with therapy is closely monitored and the plan adjusted, if needed, to ensure ongoing engagement and desired therapy outcomes. Simple Likert-style ratings are often used to quantify the change<sup>[5]</sup>.

### B. Neurophysiological correlates

While memory encoding and consolidation are impaired from the outset of the most common types of amnesic dementias (Alzheimer's disease, vascular dementia) the progression is gradual and other cognitive functions are relatively preserved in the earlier stages (language, visuospatial abilities, and implicit memory). That remaining cognitive ability provides a sufficient basis for new learning and therapeutic work in mild and moderate dementia<sup>[6]</sup>.

## SCIENTIFIC EVALUATION

There is growing evidence for the effectiveness of cognitive rehabilitation programmes and specific rehabilitative techniques that range from small-scale pre- and post-comparison studies to large randomised controlled trials, with studies reporting reduced functional disability and better performance in daily tasks<sup>[7-12]</sup>. While the studies focus on Alzheimer's disease, there is some early work in non-amnesic forms of dementia<sup>[13-14]</sup>.

There is limited research on the cost-effectiveness of cognitive rehabilitation in dementia. In the GREAT multicentre single-blind randomised controlled trial (Goal-oriented cognitive Rehabilitation in Early-stage Alzheimer' and related dementias), the intervention was reported as cost-effective from both health and social care and societal perspectives at willingness-to-pay values of £2,500 and above, in terms of achieving improvement in relation to areas specifically targeted in the therapy, but not in terms of gains in the quality-adjusted life-years of the person with dementia or the care partner<sup>[15]</sup>.

## IMPLEMENTATION AND PRACTICAL ADVICE

### A. Training and/or knowledge required to provide the intervention

Practitioners need to know the principles of cognitive rehabilitation and specific rehabilitative techniques, and have experience in goal-setting, solution-based problem-solving approach, and activity analysis. It is also essential to understand the biopsychosocial model of dementia and the specific needs of people with dementia. Clinical psychology, neuropsychology and occupational therapy courses typically include modules on dementia and cognitive rehabilitation for acquired brain injury and therefore provide excellent knowledge and skill base for providing cognitive rehabilitation for people with dementia.

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## B. Practical and clinical advice

### THERAPEUTIC INTENTION

#### Participants profile

People with early-stage dementia, particularly the amnesic type.

#### Indications

Difficulties in managing everyday activities.

- Cognitive rehabilitation: any cognitive difficulties that affect daily life (memory, language, planning and sequencing, executive functions, motor praxis).
- Psychological rehabilitation: anxiety, low esteem, poor sleep when secondary to cognitive difficulties.

#### Contra-indications

Limited understanding of own level of functioning, reluctance to confront the difficulties and put effort into addressing them.

#### Contributors

Practitioners trained in cognitive rehabilitation (clinical psychologist, neuropsychologist, occupational therapist, specialist nurse); person with dementia as an active participant and contributor along with the care partner if possible.

#### Setting of intervention

Place of residence (home, care home).

#### Dosage

Individual sessions depending on the needs and circumstances.

- Period: 4-12 weeks.
- Frequency: weekly or biweekly.
- Duration: 40-60 minutes session.

#### Session sequencing

After the initial assessment and goal-setting session, the following sessions typically start with reviewing therapy goals and strategies, then focus on progressing that work or on addressing potential barriers (e.g., anxiety), and end with planning for the between-session practice if needed.

#### Observance / Attendance

It is helpful when a caregiver (close friend, family member) is involved.

#### Assessment

Interview; activities of daily living; neuropsychological evaluation of cognitive functions relevant for the individual therapy goals.

## FOR MORE INFORMATION

- A short introduction to cognitive rehabilitation in dementia: Kudlicka, A., & Clare, L. (2018). Cognitive rehabilitation in mild and moderate dementia. In *Oxford Research Encyclopedia of Psychology*. Clare, L. (2017). Rehabilitation for people living with dementia: a practical framework of positive support. *PLoS Medicine*, 14(3), e1002245.
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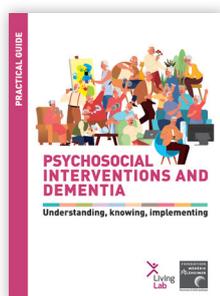
## ABOUT THE AUTHOR

**Aleksandra Kudlicka**, PhD, is a psychologist and researcher at the University of Exeter involved in work on introducing cognitive rehabilitation into dementia health and social care services.



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This sheet corresponds to a chapter of the guide *Psychosocial interventions and dementia: understanding, knowing, implementing* directed by the Fondation Médéric Alzheimer.

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