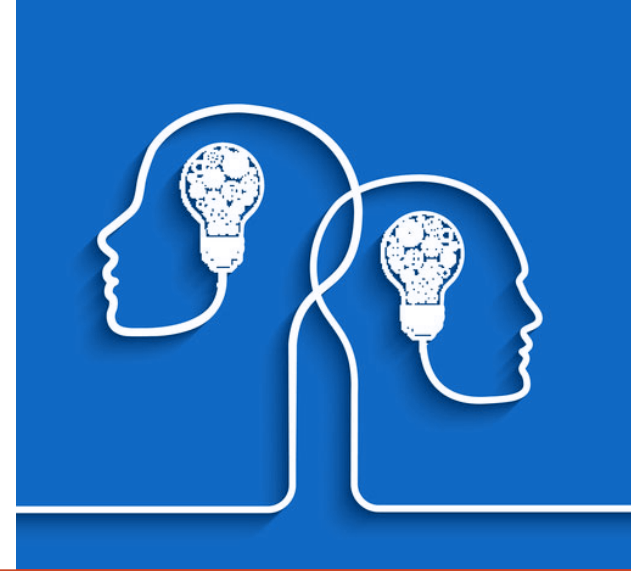




# Cognitive Remediation Therapy in Early Psychosis

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## Cognitive Remediation Therapy: What is it and why consider it for psychosis?

Cognitive remediation therapy (CRT) is a behavioral intervention, which aims to improve a person's cognitive abilities and daily functioning, and has often been used as a supplement along with traditional therapies to help people with mental health conditions such as schizophrenia, depression, attention deficit hyperactivity disorder, and neurological disorders<sup>1</sup>. For individuals with psychosis, the first line of treatment is often antipsychotic medications. While these medications can be effective for improving symptoms like hallucinations and delusions, they typically have little effect on the cognitive and functional difficulties that are common in psychosis, including the at-risk phase<sup>2-5</sup>.

Cognition is defined as the mental process by which individuals think, understand, and learn about their experiences and can further be categorized into neurocognition and social cognition<sup>6</sup>. Neurocognition, non-social cognitive processes, involve domains such as attention, memory, and executive functioning. Social

cognition refers to psychological processes that are involved in perceiving, inferring, and responding in social situations<sup>7</sup>. Problems with cognition and daily functioning are considered to be significant predictors of rehabilitation success and quality of life in psychosis<sup>8</sup>. More severe cognitive impairments have often been associated with poorer clinical outcomes and difficulties in social functioning<sup>9</sup>. Non-medication interventions such as CRT have been implemented to help address these issues and aim to improve quality of life in psychosis<sup>10</sup>.

Cognitive remediation has been a major step toward treatment approaches to address both neurocognitive and social cognitive impairments in psychosis. Nowadays, there are a wide range of CRT programs which focus on improving cognitive difficulties in psychosis, utilizing various approaches and techniques. These different therapy programs include a set of cognitive drills with repeated practice, personalized feedback, and compensatory methods designed to improve both cognitive



## Improving Brain Functioning During the Early Stages of Psychosis

Within the early stages of psychosis, many individuals display difficulties in cognitive and social functioning<sup>3,5</sup>. As cognitive impairments have prominently been seen in clinical high risk individuals and early stages of psychosis, CRT may be beneficial in people showing signs of risk for psychosis, prior to the onset of prominent symptoms<sup>5,24-26</sup>. Evidence from studies suggest that cognitive impairments are more responsive to remediation during these early stages of psychosis rather than during chronicity<sup>27,28</sup>. Therefore, initiating appropriate treatment as soon as possible has the potential to improve both clinical and functional outcomes for individuals in the early stages of psychosis<sup>28</sup>.

Many of the strategies implemented in CRT are not only used to improve cognitive functioning, but also to help alleviate symptoms associated with psychosis and influence brain plasticity by targeting neural system functions; thus, improving cognitive processes which play a critical role in clinical

symptoms, emotion regulation, and adaptive community functioning<sup>29</sup>. Neuroimaging studies have reported both functional and structural changes in major prefrontal regions of the brain alongside improvements in cognition<sup>29,30</sup>. Evidence has shown that cognitive remediation appears to slow or partially reverse progressive brain volume deterioration in regions involved in higher-order cognitive processes including the frontal cortex, hippocampus, amygdala, and the thalamus<sup>14,31</sup> in addition to showing increases and restoration of neural networks<sup>32</sup>.

## Conclusion

Early interventions of CRT have shown significant potential as individuals within the early stages of psychosis tend to have more resilient brains which may serve as a protective factor against the progression of symptoms compared to individuals in the chronic stages of psychosis<sup>33</sup>. Overall, CRT represents a promising treatment option for improving cognitive and functional difficulties among people with early psychosis.

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## Resources

<http://www.cognitive-remediation.com/>

<http://www.cognitiveenhancementtherapy.com/>

Do you have questions that you would like us to address in future clinical briefs?

Contact: Rachal Hegde at [rhedge@bidmc.harvard.edu](mailto:rhedge@bidmc.harvard.edu)

The Early Psychosis Learning Collaborative (EPLC) is part of an initiative by the Substance Abuse and Mental Health Services Administration (SAMHSA)'s New England Mental Health Technology Transfer Center Network (MHTTC), which provides training, technical assistance, and tool and resource development to enable states and mental health practitioners to provide recovery-oriented practices within the context of recovery-oriented systems of care.

To learn more about us, please see: <https://mhffcnetwork.org/centers/new-england-mhffc/news/early-psychosis-learning-collaborative-eplc>



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