

# Mind Matters 2025: Advances in Psychiatry and Mental Health Care

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## What Neurotechnology Reveals about Hypnotic Trance, Cognition, and How it Influences Therapeutic Outcomes

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Clinical Hypnosis (CH) is gaining traction as an effective intervention for mental health, chronic pain, and overall wellbeing. Traditionally linked to heightened suggestibility, recent advances in neuroscience have begun to uncover the distinct neural dynamics underpinning the hypnotic state. CH has demonstrated efficacy across anxiety disorders, PTSD, anesthesia, and somatoform disorders. Underlying mechanisms may involve PFC-amygdala-hippocampal regulation, reduced stress hormone responses, and improved cognitive flexibility.

Functional Magnetic Resonance Imaging (fMRI) studies reveal that hypnosis elicits a characteristic pattern of brain activity, including decreased connectivity within the default mode network (DMN), heightened engagement of the anterior cingulate cortex, and modulation of thalamocortical circuits. Notably, Spiegel et al. (2016) observed consistent downregulation of the dorsal anterior cingulate, affirming the neurobiological distinctiveness of hypnosis.

Emerging neurotechnologies such as mobile EEG (mEEG), brainwave entrainment (BWE), and bio/ neurofeedback now enable clinicians to monitor and deepen hypnotic states with greater precision. These tools are being employed to enhance memory integration, facilitate therapeutic openness, and assist in processing unresolved trauma.

By examining trance states through current neuroscientific frameworks, this presentation demonstrates how clinical hypnosis is now established as a quantifiable, adaptable, and evidence-based therapeutic modality in modern integrative practice.