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NEUROBIOLOGY OF TRAUMA RESEARCH

A selection of studies and articles related to various approaches in trauma treatment, including psychedelic-assisted psychotherapy, nutritional and metabolic psychiatry, functional psychology, clinical psychological treatments, and neuroimaging studies.

These resources provide comprehensive insights into the neurobiological effects of trauma, innovative treatment approaches, and the integration of mind-body therapies in trauma recovery.

Peer-Reviewed Articles:

1. Neurobiology of Trauma and PTSD:

"Traumatic stress: effects on the brain" [pmc.ncbi.nlm.nih.gov](https://pubmed.ncbi.nlm.nih.gov/3181836/)

Summary: This article discusses how traumatic stress affects brain function and structure, particularly focusing on the amygdala, hippocampus, and prefrontal cortex. *Link:* <https://pubmed.ncbi.nlm.nih.gov/articles/PMC3181836/>

"Post-traumatic stress disorder: the neurobiological impact of psychological trauma" [pmc.ncbi.nlm.nih.gov](https://pubmed.ncbi.nlm.nih.gov/3182008/)

Summary: This review highlights alterations in brain regions such as the hippocampus and amygdala in patients with PTSD. *Link:* <https://pubmed.ncbi.nlm.nih.gov/articles/PMC3182008/>

2. Trauma and the Autonomic Nervous System (Polyvagal Theory):

"Understanding PTSD From a Polyvagal Perspective" [ifm.org](https://www.polyvagal.com/)



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Summary: This article explores how trauma and PTSD affect the body and discusses the use of vagal nerve stimulation to promote recovery in PTSD patients. *Link:* <https://www.ifm.org/articles/understanding-ptsd-from-a-polyvagal-perspective>

3. Functional Psychology Approaches to Healing Trauma:

"The Role of Implicit Memory in the Development and Recovery from Trauma"
[mdpi.com](https://www.mdpi.com)

Summary: This paper examines how implicit memory contributes to trauma development and recovery, emphasizing functional psychology approaches. *Link:* <https://www.mdpi.com/2673-4087/3/1/5>

Clinical Trials:

1. Emerging Treatments for PTSD:

"MDMA-assisted therapy for severe PTSD: a randomized, double-blind, placebo-controlled phase 3 study" en.wikipedia.org+1pmc.ncbi.nlm.nih.gov+1

Summary: This study demonstrates that MDMA-assisted therapy is safe and effective in treating severe PTSD. *Link:* <https://pmc.ncbi.nlm.nih.gov/articles/PMC8205851/>

"MDMA-assisted therapy is associated with a reduction in chronic pain among people with post-traumatic stress disorder" [frontiersin.org](https://www.frontiersin.org)

Summary: This research indicates that MDMA-assisted therapy may reduce chronic pain in individuals with PTSD. *Link:* <https://www.frontiersin.org/articles/10.3389/fpsy.2022.939302/full>



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White Papers:

1. Trauma's Impact on the Body and Brain:

"Dysregulation of inflammation, neurobiology, and cognitive function in PTSD: an integrative review" link.springer.com

Summary: This review discusses the link between inflammation and PTSD, highlighting the impact of trauma on the body and brain.

Link: <https://link.springer.com/article/10.3758/s13415-020-00782-9>

2. Integrating Mind-Body Therapies for Trauma Recovery:

"Expressive Arts Therapy as an Effective Treatment for Adults Recovering from Complex Trauma" digitalcommons.lesley.edu

Summary: This paper explores the efficacy of expressive arts therapy, a mind-body approach, in treating adults recovering from complex trauma.

Link: https://digitalcommons.lesley.edu/expressive_theses/480

1. Psychedelic-Assisted Psychotherapy for Trauma:

- *MDMA-Assisted Therapy for PTSD:*
 - *Summary:* A randomized, double-blind, placebo-controlled Phase 3 study demonstrating that MDMA-assisted therapy significantly reduced PTSD symptoms and functional impairment in participants with moderate to severe PTSD. [nature.com](https://www.nature.com)
 - *Link:* <https://www.nature.com/articles/s41591-023-02565-4>



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- *Psychedelic-Assisted Psychotherapy—A Systematic Review:*

Summary: A comprehensive review of clinical studies evaluating the efficacy and safety of psychedelic-assisted psychotherapy for various mental health conditions, including PTSD. *Link:*

<https://www.frontiersin.org/articles/10.3389/fpsyg.2022.887255/full>

2. Nutritional and Metabolic Psychiatry in Trauma Treatment:

Ketogenic Diet as a Nutritional Metabolic Intervention for Obsessive-Compulsive Disorder:

Summary: This narrative review examines current evidence on the potential role of the ketogenic diet in treating obsessive-compulsive disorder, highlighting its impact on brain metabolism. [mdpi.com](https://www.mdpi.com) *Link:* <https://www.mdpi.com/2072-6643/17/1/31>

Nutrition as Metabolic Treatment for Anxiety:

Summary: The article discusses six nutritional strategies with emerging evidence of efficacy in treating anxiety, emphasizing the role of diet in mental health.

[frontiersin.org](https://www.frontiersin.org) *Link:*

<https://www.frontiersin.org/articles/10.3389/fpsyg.2021.598119/full>

3. Functional Psychological Approaches and Clinical Studies for Trauma Treatment:

MDMA-Assisted Psychotherapy for PTSD:

Summary: A systematic review and meta-analysis evaluating the efficacy of MDMA-assisted psychotherapy in treating PTSD, indicating significant symptom reduction. *Link:* <https://pubmed.ncbi.nlm.nih.gov/34519761/>



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MDMA-Assisted Therapy for PTSD:

Summary: A randomized, double-blind, placebo-controlled Phase 3 study demonstrating that MDMA-assisted therapy significantly reduced PTSD symptoms and functional impairment in participants with moderate to severe PTSD.

[nature.com](https://www.nature.com/articles/s41591-023-02565-4) Link: <https://www.nature.com/articles/s41591-023-02565-4>

4. Psychedelic-Assisted Psychotherapy for Trauma

MDMA-Assisted Therapy for PTSD

Summary: A Phase 3 randomized, double-blind, placebo-controlled study demonstrating that MDMA-assisted therapy significantly reduces PTSD symptoms and improves functional outcomes. Link: [Nature Medicine \(2023\)](#)

Psychedelic-Assisted Psychotherapy—A Systematic Review

Summary: A systematic review of clinical studies evaluating the efficacy and safety of psychedelic-assisted psychotherapy for PTSD, depression, and anxiety. Link: [Frontiers in Psychology \(2022\)](#)

MDMA-Assisted Psychotherapy for PTSD: Systematic Review & Meta-Analysis

Summary: A meta-analysis of MDMA-assisted psychotherapy trials indicating significant symptom reduction in PTSD patients. Link: [PubMed \(2021\)](#)

5. Neuroimaging Studies Related to Trauma:

Functional Neuroimaging Studies of Post-Traumatic Stress Disorder:

Summary: This review discusses functional neuroimaging findings in PTSD, focusing on significant alterations in brain regions such as the amygdala, medial prefrontal cortex, hippocampus, and insula. [pmc.ncbi.nlm.nih.gov](https://pubmed.ncbi.nlm.nih.gov)



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Link: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3142267/>

Neuroimaging in Post-Traumatic Stress Disorder: A Narrative Review:

Summary: A narrative review summarizing neuroimaging studies in PTSD, highlighting structural and functional brain changes associated with the disorder.

Link: <https://www.archivesofmedicalscience.com/pdf-188377-122084?filename=122084.pdf>

6. Nutritional and Metabolic Psychiatry in Trauma Treatment

Ketogenic Diet as a Metabolic Intervention for OCD

Summary: This study examines the potential role of the ketogenic diet in treating obsessive-compulsive disorder (OCD) and other psychiatric conditions by modulating brain metabolism. Link: [MDPI \(2023\)](#)

Nutrition as Metabolic Treatment for Anxiety

Summary: Discusses six evidence-based nutritional strategies to help reduce anxiety symptoms by optimizing brain metabolism. Link: *Frontiers in Psychiatry (2021)*

Inflammation, Neurobiology, and Cognitive Function in PTSD

Summary: Highlights the link between PTSD, chronic inflammation, and cognitive function, emphasizing the role of metabolic interventions in treatment. Link: [Springer \(2020\)](#)



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7. Functional Psychology & Clinical Studies for Trauma Treatment

The Role of Implicit Memory in Trauma Recovery

Summary: Explores how implicit memory contributes to trauma development and recovery through functional psychology approaches. Link: [MDPI \(2022\)](#)

Expressive Arts Therapy for Trauma Recovery

Summary: Investigates expressive arts therapy as a mind-body approach for complex trauma recovery. Link: Lesley University Digital Commons (2022)

Understanding PTSD From a Polyvagal Perspective

Summary: Discusses trauma's impact on the autonomic nervous system and the polyvagal theory's role in PTSD treatment. Link: IFM (2021)

8. Neuroimaging Studies Related to Trauma

Functional Neuroimaging Studies of PTSD

Summary: Reviews functional MRI (fMRI) studies on PTSD, highlighting alterations in the amygdala, medial prefrontal cortex, hippocampus, and insula. Link: [PMC \(2011\)](#)

Neuroimaging in PTSD: A Narrative Review

Summary: A narrative review summarizing neuroimaging studies showing structural and functional brain changes associated with PTSD. Link: [Archives of Medical Science \(2022\)](#)



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Neurobiology of Trauma and PTSD

Summary: A review of how traumatic stress affects brain function and structure, particularly the amygdala, hippocampus, and prefrontal cortex. Link: [PMC \(2011\)](#)