



POST-TRAUMATIC STRESS DISORDER Factsheet

August 2021

What are neurometabolites?

Magnetic resonance spectroscopy has been used to measure levels of metabolites, such as N-acetylaspartate (NAA), creatine (Cr), trimethylamines/ choline containing compounds (Cho) and glutamine (Gln). These derivatives are indirect indicators of biochemical activity. Alteration in levels of NAA/Cr is associated with the protective myelin sheath surrounding neurons, which is used as a marker of neural cell viability. Decreased levels of NAA are associated with neuron death, or injury to the part of the neuron that connects to other cells, the axon.

What is the evidence for neurometabolite alterations in people with PTSD?

Moderate quality evidence found medium-sized reductions in NAA concentration in the hippocampus and the anterior cingulate cortex of people with PTSD compared to controls. NAA/Cr ratio may also be reduced when compared to non-PTSD samples.



NeuRA (Neuroscience Research Australia) is one of the largest independent medical and clinical research institutes in Australia and an international leader in neurological research.

Diseases of the brain and nervous system pose the greatest health, economic and social burden of any disease group because they are chronic, debilitating and have no known cures.

Medical research is the cornerstone of efforts to advance the health and wellbeing of families and the community. Our dedicated scientists are focussed on transforming their research into significant and practical benefits for all patients.

While we hope you find this information useful, it is always important to discuss any questions about PTSD and its treatment with your doctor or other health care provider.

For more information see the technical table

HOW YOUR SUPPORT HELPS

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