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SCHIZOPHRENIA Factsheet

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What is the hippocampus?

The hippocampus is located deep within the medial temporal lobe and has extensive connections, largely to cortical association areas including the sensory modalities. This widespread connectivity facilitates multimodal integration of sensory information, and likely contributes to the role of the hippocampus in generating memory and facilitating spatial navigation. The medial temporal lobes, particularly the hippocampus and the surrounding cortical regions, have been implicated as crucial facilitators in the formation of new declarative memories.

What is the evidence for changes in the hippocampus?

Structural changes

High quality evidence suggests there are hippocampal grey matter reductions in people with chronic or first-episode schizophrenia compared to controls. Moderate to high quality evidence suggests first-degree relatives of people with schizophrenia also have reduced hippocampal volume. Moderate quality evidence suggests reductions in white matter integrity in the hippocampus, entorhinal gyrus, and parahippocampal gyrus in people with schizophrenia. Moderate to low quality evidence suggests increased hippocampal volume after treatment with second generation antipsychotics.

Functional changes

Moderate quality evidence suggests decreased activation in the hippocampus of people with schizophrenia during memory encoding and retrieval tasks. Moderate to low quality evidence suggests decreased activation in the parahippocampus during emotion processing tasks. There are also metabolic changes, with decreased hippocampal N-acetyl aspartate/creatine ratio in people with schizophrenia and in their first-degree relatives.

For more information see the technical table

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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 enefits for all patients.

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

HOW YOUR SUPPORT HELPS

We are able to make significant advances due to the generosity of countless people. Your donation allows us to continue to work towards transforming lives. For information on how you can support our research, phone **1300 888 019** or make a secure donation at **neura.edu.au/donate/schizophrenia**.

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