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What is the corpus callosum?

The corpus callosum is the bundle of inter-hemispheric white matter tracts that plays an essential role in the transfer and integration of sensory, motor and cognitive information between homologous regions in opposite hemispheres. It is the primary source of contralateral connections between the hemispheres and contains as many as 250 million axons. Connections from the prefrontal, parietal, motor, somatosensory and visual cortices are transmitted across the corpus callosum in a topographic manner.

What is the evidence for changes in the corpus callosum?

Moderate to high quality evidence found volume and white matter reductions in the corpus callosum of people with schizophrenia compared to controls. There were reductions in frontal white matter via genu of the corpus callosum extending to the body of the corpus callosum, incorporating fibers joining the left anterior thalamic radiation, cingulum fibers, inferior fronto-occipital fasciculus, and uncinate fasciculus.

High quality evidence found both male and female patients showed decreases of white matter in the genu, but not in the splenium, of the corpus callosum when compared to controls. The effect was non-significantly higher in females than in males.

There were similar decreases in white matter integrity in people with schizophrenia and people with bipolar disorder in the genu of the corpus callosum extending to the anterior thalamic radiation/cingulum, and inferior fronto-occipital fasciculus.

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 benefits 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.