

Mental disorders due to permanent stress

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Activated through permanent stress, immune cells will have a damaging effect on and cause changes to the brain. This may result in mental disorders. The effects of permanent stress on the immune system are studied by the research group headed by Prof Dr Georg Juckel at the LWL university clinic at the Ruhr-Universität Bochum (RUB). The RUB's science magazine "*RUBIN*" reports on their research.

Stress activates the immune system

The team focused mainly on a certain type of phagocytes, namely microglia. Under normal circumstances, they repair synapses between nerves cells in the brain and stimulate their growth. Once activated, however, microglia may damage [nerve cells](#) and trigger inflammation processes. The studies carried out in Bochum have shown that the more frequently microglia get triggered due to stress, the more they are inclined to remain in the destructive mode – a risk factor for mental diseases such as schizophrenia.

Susceptibility for stress effects varies from individual to individual

Not every individual who is under permanent stress will develop a [mental disorder](#).

Prof Juckel's team suspects the cause to go back to the embryonic stage. US researchers demonstrated as far back as the 1950s that children born

of mothers who contracted true viral influenza during pregnancy were seven times as likely to suffer schizophrenia later in life. The researchers from Bochum confirmed this hypothesis in animal models. Now, they are striving to research into the mechanism that makes people susceptible to this disease. "The embryo undergoes some kind of [immune response](#) which has far-reaching consequences and presumably shapes the future immune system," says Dr Astrid Friebe from the LWL clinic.

Provided by Ruhr-Universität-Bochum

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