



# SCHIZOPHRENIA Factsheet

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## How are infectious agents related to risk for schizophrenia?

Increased exposure to infections prior to the onset of schizophrenia has been recognised, which suggests infections may be involved in its aetiology. Potential mechanisms for this association include direct impacts of infections on the brain, immune activation, inflammatory cytokines, and alterations in the gut microbiota. This topic summarises the available evidence for the risk of developing schizophrenia following exposure to infectious agents, both before and after birth.

## What is the evidence for infectious agents as risk factors for schizophrenia?

Moderate to high quality evidence found a small increased risk of schizophrenia in people exposed to childhood infections, particularly central nervous system viral infections. The effect sizes increased with increasing number of hospitalisations and decreased with increasing age of exposure (up to 10 years old).

Moderate quality evidence from prospective cohort studies, but not retrospective case-control studies, showed a small but significant association between gastroenteritis exposure and later development of schizophrenia. There was also a small increase in *Toxoplasma gondii* antibodies found before the development of schizophrenia. *Toxoplasma gondii* is a parasitic protozoa, hosted by domestic cats and other warm-blooded animals, including humans.

Moderate to high quality evidence suggests a small increased risk of psychotic disorders (mostly schizophrenia spectrum or non-affective psychosis) following exposure to herpes simplex type 2 in utero. Lower quality evidence suggests exposure to *Toxoplasma gondii* or genitourinary infections in utero may also be associated with increased risk of psychotic disorders. No significant risk was found following exposure to herpes simplex type 1, influenza (in any trimester), or cytomegalovirus in utero.

For more information see the technical table



*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

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