

Acute toxoplasmosis impairs memory and concentration

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Acute toxoplasmosis, an infectious disease carried by cats, may be a much more severe illness than previously understood.

Recent research from The University of Auckland has shown that the disease, commonly caught from cats, can be a much more severe and disabling illness than doctors and researchers have believed.

About 40 percent of New Zealanders are infected with [toxoplasmosis](#) at some time in their lives. The disease begins with an acute phase lasting typically for six to eight weeks. It continues as a chronic infection, normally without obvious symptoms that cannot be cured and last for life.

"While chronic toxoplasmosis has been shown to have a strong association with conditions affecting the brain such as schizophrenia, and with suicide and self-harming behaviour, the disease in its acute phase has usually been seen as a benign, trivial and self-healing illness," says Associate Professor Mark Thomas from the Department of [Molecular Medicine](#) and Pathology.

Associate Professor Thomas, who is also an infectious diseases physician at Auckland City Hospital, where he has cared for many patients with toxoplasmosis, said the aim of the recent study "was to investigate the neuropsychiatric effects of acute toxoplasmosis."

"We were surprised, when the results came in, to discover how common

it was for patients to report significant and prolonged symptoms such as impaired memory and concentration, headaches and [extreme fatigue](#)."

The study, conducted with assistance from Dr Arlo Upton, a [microbiologist](#) at Labtests Auckland, and Weng Kit Wong, a third-year medical student at The University of Auckland, was based on a questionnaire completed by adults who had been diagnosed by their GPs with acute toxoplasmosis in Auckland during 2011.

Of the 31 patients who completed the questionnaire, 90 percent reported fatigue (persisting for a median duration of six weeks), 74 percent reported headaches and 52 percent found they had difficulty in concentrating. Sixteen of the 31 had aches in their muscles and 12 had fever. One was briefly admitted to hospital because of fever, sweats, muscle aches and elevated heart rate.

"Most respondents reported that these effects had a significant impact on their overall physical and mental health," said Associate Professor Thomas. "There has not been any previous similar study, and so these findings are new."

The study was unique in its focus on people in the community rather than in hospital.

Though Associate Professor Thomas acknowledges that respondents who chose to complete the questionnaire might well have been those who suffered the most severe symptoms, they represented 15 to 20 percent of the total numbers diagnosed in the Auckland area and therefore show that at least that proportion of patients have severe reactions to the acute infection.

He believes these results will be of interest to doctors throughout the world, since they reverse the previous misconceptions about the acute

phase of the illness and give a deeper understanding of what patients may be experiencing.

He also believes that the study points to the need for further research on the effects of toxoplasmosis infection on the brain. Studies of laboratory animals with toxoplasmosis have shown that the organism releases dopamine – an important brain messenger molecule. He suspects that some of the effects of acute and chronic toxoplasmosis in humans may be due to production of excessive amounts of dopamine in the brains of infected people.

The paper was published in the *Scandinavian Journal of [Infectious Diseases](#)*.

Provided by University of Auckland

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