

Australian research finds autism risk

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A family history of pink disease is a significant risk factor for developing autism spectrum disorder (ASD), new research from Swinburne University of Technology has found.

The results of the study, conducted by Associate Professor David Austin and Ms Kerrie Shandley from the Swinburne [Autism](#) Bio-Research Initiative (SABRI), have been published in the Journal of Toxicology and Environmental Health.

Pink disease was a form of mercury poisoning prevalent in the first half of the 20th century. Affecting 1 in 500 young children with a hypersensitivity to mercury, it caused a range of severe symptoms including loss of speech, loss of interest in usual activities, hypersensitivity to light, pain and, in up to 20 per cent of cases, death. When mercury was identified as the culprit and removed as an ingredient in teething powders in the 1950s, the disease was essentially wiped out.

For the current study the Swinburne researchers surveyed over 500 Australian survivors of Pink Disease, asking them about the health of their descendents. This allowed them to collect detailed data about the survivors, as well as their 1100 children and 1360 grandchildren.

"We asked the pink disease survivors to report any health conditions that their children or grandchildren had been diagnosed with," Austin said.

"The survey included questions about Down syndrome, [fragile X syndrome](#), [attention deficit hyperactivity disorder](#) (ADHD), epilepsy and autism."

The prevalence rate of most disorders was comparable to general population figures, however, the rate for autism was extremely high.

"Staggeringly, we found that one in 25 grandchildren of pink disease survivors aged 6-12 had been diagnosed with an [autism spectrum disorder](#). This compares to the current Australian prevalence rate for that age group of one in 160.

Given that these children are known to have a family history of mercury sensitivity, the finding could have significant implications for the emotionally-charged autism debate.

"Since autism was first recognised as a disorder, scientists have been trying to identify its cause. There have been two warring camps; one that attributes autism to genetics and the other which claims it is caused by an environmental trigger," Austin said.

"This study suggests that it may actually be a combination of the two. That is, genetic susceptibility to a trigger (mercury) and then exposure to that trigger. In this sense, it is like a peanut allergy. For most of us peanuts are completely harmless but, for those who are allergic, there can be serious consequences if there is exposure."

Researchers at SABRI are now extending their research by examining cellular and genetic characteristics of Pink Disease survivors and people with autism. The results are expected to be released in 2012.

In the meantime, Austin suggests those with a suspected [family history](#) of pink disease to minimise their exposure to [mercury](#). This is particularly important for young children and women who are pregnant or breastfeeding.

"This can be done by observing the recommendations of Food Standards

Australia regarding seafood consumption, opting for non-amalgam dental fillings and requesting preservative-free vaccines from your doctor," he said.

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Provided by Swinburne University of Technology

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