

## **MEDIA RELEASE**

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# **AUTISM: NEW RESEARCH FINDINGS**

The world's largest and most comprehensive study of children with autism has revealed the first biologically distinct subtypes of brain development in the condition, it was announced today.

The findings are akin to the discovery of the first biological subtypes of cancer in the 1960s, which opened the door to greater understanding of causes and effective treatments, cure and prevention, as well as major changes in public health policies such as bans on smoking and asbestos. (More than 200 biological subtypes of cancer have since been identified, such as breast cancer, lung cancer, skin cancer, colorectal cancer and prostate cancer). Similar to cancer, it is believed that genetics, the immune system and the environment may be factors in causes of autism.

Dr David Amaral, Research Director of the UC Davis MIND Institute in the USA, announced the findings at the Asia Pacific Autism Conference in Perth, Australia, today. The conference is the world's biggest gathering this year of international experts on autism. Experts from America, England, Belgium, Sweden, Kuwait, Singapore, India and Australia are presenting their peer-reviewed research findings at the conference over the next three days.

More than 1,300 people from 22 countries and every state and territory in Australia are attending the conference at the Burswood Entertainment Complex Convention Centre in Perth.

The Autism Association of Western Australia is hosting the three-day conference. The Western Australian Government is principal sponsor of the conference, which was officially opened this morning by the Premier of Western Australia, Colin Barnett.

Dr Amaral's findings are the first publicly released major findings of the Autism Phenome Project, the largest and most comprehensive assessment of children with autism ever attempted. The project started in 2006 and is being conducted at the MIND Institute at the University of California, Davis (UC Davis). It is headed by Dr Amaral, Distinguished Professor of Psychiatry and Behavioural Sciences at UC Davis, and involves multiple scientists across eight fields.

Dr Amaral told the conference his five-year study of 350 children with autism has revealed two biologically distinct subtypes of brain development in autism.

"One group of children has precocious growth of the brain. The pattern only appears in boys with autism and is mainly observed in children whose parents say they regressed into autism. The medical records of these children indicate that their brains began to become enlarged around 4 to 5 months of age, even though their autism did not appear until 18 to 24 months," Dr Amaral said.

"Many other children with autism, including all girls evaluated, appear to have a normal trajectory of brain growth, though their autism appears in the first 12 months. The biological cause of autism in these children is likely to be quite different from those with abnormal brain growth."

Dr Amaral told the conference: "It is absolutely clear there are biologically distinct subtypes of autism. The hints that we have uncovered from monitoring the brain growth of children with autism is just the



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tip of the iceberg of biological features that will support the definition of biologically different types of autism. This is early days and it is impossible to define how many subtypes will ultimately be discovered.

"Identifying, defining and investigating biological subtypes of autism is a key to understanding causes and progress towards effective treatment, cure and prevention.

"I think there are probably many biological subtypes of autism. Until we start attacking each subtype we will not make progress towards prevention and more effective reduction in disability.

"It is similar to the situation with cancer. If we were trying to cure all cancer at the same time it would be hopeless. Well, the same is true for autism."

According to the latest US Government figures, nearly 1 in 110 children born today have or will eventually have autism. (The rate in Australia in a 2007 prevalence study was 1 in 160). The rate in the 1980s was 1 in 1,000. There is no known cause or cure. Autism is a neurodevelopmental disorder with relatively poorly understood biological origins. It is distinguished by a triad of symptoms:

- impairments in social interaction
- impairments in communication
- restricted interests and repetitive behaviour.

Four of every five children with autism are boys. The demand for services for children with autism is now greater than the demand for services for children with cerebral palsy, Down Syndrome or sensory disabilities.

Further conference details at [www.autism.org.au](http://www.autism.org.au) and [www.apac11.org](http://www.apac11.org).

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## **Autism Association of Western Australia**

Our mission is to advance the personal development, equality of opportunity and community participation of people with Autism.

The Autism Association of Western Australia is a not-for-profit organisation. It has a staff of 450 and provides support to more than 2,200 children and adults with autism and their families in Western Australia.

It is the only specialist Autism organisation in Australia providing a full range of services to people with Autism from infancy to and throughout adulthood. It works with a range of service providers in Western Australia.

It is only one of five agencies in the world providing specialist services to help people with Autism gain and maintain employment.

More at [www.autism.org.au](http://www.autism.org.au)