

# Autism and Asperger's Syndrome

## Research Update, July 2010



Monash Alfred Psychiatry Research Centre

*Please note: You have been sent this research update because you have either participated in this research at the Monash Alfred Psychiatry Research Centre (MAPrc, Alfred hospital, Melbourne) and indicated that you would like to know the results, or because you have expressed a wish to be updated on the progress of our research. If you no longer wish to receive these updates, please contact Dr. Peter Enticott ([03] 9076 6594 or p.enticott@alfred.org.au).*

### Why is this research being conducted?

There seems to be an increase in the number of people that are being diagnosed with autism and Asperger's syndrome. Despite this, not much is known about the workings of the brain in these conditions, and medical treatment options are limited.

Our research involves the use of modern, non-invasive neuroscience techniques, including transcranial magnetic stimulation (TMS), electroencephalography (EEG), and functional magnetic resonance imaging (fMRI). We are conducting this research to better understand how the brain works in autism spectrum disorders, which we believe will lead to advances in both diagnosis and treatment. We are also conducting this research to trial new treatment approaches, such as repetitive TMS, which we believe could be effective in treating autism spectrum disorders. This research is funded by the National Health and Medical Research Council (NHMRC) and NARSAD, the world's leading charity dedicated to mental health research.

### What results have emerged since the last research update?

We now have preliminary results from our clinical trial examining "deep repetitive TMS" in autism spectrum disorders. This is a clinical trial that investigates whether a new type of

TMS can be used to improve social abilities among adults with high-functioning autism or Asperger's syndrome. It has the potential to lead to a new treatment for autism spectrum disorders, helping to improve the difficulties people can experience in relating to others.

Several participants have shown a reduction in their autism-related symptoms, together with social improvements, following two weeks of deep repetitive TMS. Specific improvements reported include an increased interest in social interactions and friendships, increased eye contact, being more responsive to other people's thoughts and feelings, and less discomfort in social situations.

While the complete results of this study won't be known until next year, these initial preliminary findings are very encouraging in our efforts to develop a new treatment for social relating in autism and Asperger's syndrome. An article describing some of these initial findings will be published later this year in *The Journal of ECT*, an international medical journal devoted to the study of brain stimulation techniques (including TMS).

In other news, we are nearing completion of our largest study of autism and Asperger's syndrome to date, with over 80 individuals taking part. This study was funded by the NHMRC, and involves the use of TMS to determine the brain basis of autism. We

expect that this information will help us to develop new treatments and new ways of diagnosing autism and Asperger's syndrome.

We are also nearing completion of our fMRI study of autism and Asperger's syndrome, with about 30 people taking part. In this study, being conducted at the Royal Children's hospital, we take pictures of the activity of the brain. We are looking at how the brain understands other people, and how different regions of the brain communicate with each other, in autism and Asperger's syndrome. We expect that the results of these studies will be available by the end of the year.

### Which research projects are currently being conducted?

Deep repetitive TMS in autism spectrum disorders: Despite the initial findings mentioned above we are still recruiting for our clinical trial. Participation in this study involves attending the Alfred hospital for 15 minutes of TMS each weekday for a two week period. Two hour assessments will be conducted before the first TMS session, after the last TMS session, and one-month after the last TMS session. Participants must be aged between 18 and 65 and have a formal diagnosis of either high-functioning autism or Asperger's syndrome.

**About MAPrc:** MAPrc is the Monash Alfred Psychiatry Research Centre. Our mission is to carry out world-class psychiatry research with respect, equality, and understanding.

We are based at the Alfred Hospital, a busy teaching hospital in Melbourne, Victoria, Australia. The hospital setting reflects an important aspect of what we set out to achieve: practical 'real world' advances that make a difference to the lives of people with mental illness and those who care for them. MAPrc is part of Monash University's School of Psychology and Psychiatry and The Alfred Hospital's Department of Psychiatry.

MAPrc coordinates and facilitates all research that is performed within The Alfred's Department of Psychiatry.

### Monash Alfred Psychiatry Research Centre (MAPrc)

We are a research centre of Monash University and the Alfred Hospital  
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Patron: Her Excellency Ms Quentin Bryce AC, Governor-General of the Commonwealth of Australia

### How can I get involved?

We extend our sincere thanks to all those people who have kindly volunteered to take part in our studies.

We are, however, always looking for more volunteers (both children and adults) to take part in this important research. Individuals can elect to be included on our "Participant Database," which means that you would be invited to take part in any new projects that might be suitable. Participation in any research project is entirely voluntary, and all of our research is approved by the human research ethics committees of the Alfred hospital and Monash University. Research participants are reimbursed for their expenses (e.g., travel). Alternatively, we can provide taxi vouchers for travel to and from our research venues.

If you or someone you know has been diagnosed with high-functioning autism or Asperger's syndrome, and are interested in participating in one of our research studies, please contact Dr. Peter Enticott by telephone ([03] 9076 6594) or email ([p.enticott@alfred.org.au](mailto:p.enticott@alfred.org.au)). Please also feel free to contact Dr. Enticott if you have any questions about this research.

