

# Parent-led early intervention for autism is the first to show reduction in symptom severity through to ages 7-11

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An early intervention for autism aimed at helping parents communicate with their child has been shown to have an effect on reducing the severity of autism symptoms, and this reduction continued for six years after the end of treatment, according to a study published in *The Lancet*. The study led by the University of Manchester, King's College London and Newcastle University (UK) is the first to identify a long-term effect of an early intervention for autism, and is consistent with UK guidance supporting the use of early intervention.

The researchers found that children who had received the intervention aged 2-4 had less severe overall symptoms six years later, with improved social communication and reduced repetitive behaviours, although no changes were seen in other areas such as language or anxiety. However, they say that difficulties remain and additional ongoing support will usually be needed as the children get older.

"This type of early intervention is distinctive in being designed to work with [parents](#) to help improve parent-child communication at home," says Professor Jonathan Green, University of Manchester and Royal Manchester Children's Hospital, who led the study. "The advantage of this approach over a direct therapist-child intervention is that it has potential to affect the everyday life of the child. Our findings are encouraging, as they represent an improvement in the core symptoms of autism previously thought very resistant to change. This is not a 'cure', in

the sense that the children who demonstrated improvements will still show remaining symptoms to a variable extent, but it does suggest that working with parents to interact with their children in this way can lead to improvements in symptoms over the long-term."

Autism spectrum disorder is a developmental disorder that affects about 1 in 100 people; it can have a profound effect on children's social development into adulthood and results in an estimated £1-1.5 million in lifetime costs for families and the community. The type of early intervention used in this study focuses specifically on working with parents. Through watching videos of themselves interacting with their child and receiving feedback from therapists, parents are able to enhance their awareness and response to their child's unusual patterns of communication; they become better able to understand their child and communicate back appropriately in a focused way. Parents take part in 12 therapy sessions over 6 months, followed by monthly support sessions for the next 6 months. In addition, parents agree to do 20-30 minutes per day of planned communication and play activities with the child.

In the original Preschool Autism Communication Trial (PACT), 152 children aged 2-4 with autism were randomised to receive the 12 month early intervention or treatment as usual. The study published today is the follow-up analysis of the same children approximately 6 years after the end of treatment. 121 (80%) of the 152 original trial participants were assessed as part of the follow-up study. Of these, 59 children had previously received the PACT intervention and 62 had received treatment as usual. Autism severity was measured using the international standard measure of autism symptoms (ADOS CSS), which combines social communication and restricted and repetitive behaviour symptoms into an overall measure of severity scored 1-10, with 10 being the most severe.

At the start of the trial, both groups had similar ADOS CSS scores (8.0

in the intervention group, 7.9 in the treatment as usual group). At follow-up, children in the intervention group scored an average of 7.3 on the ADOS CSS score and 46% (27/59) of the group were in the severe range. By comparison, children in the treatment as usual group scored an average of 7.8, with 63% (39/62) in the severe range. This corresponds to a reduction of 17% in the proportion of children with severe symptoms in the intervention group compared to treatment as usual.

At follow-up, there were also improvements in children's communication with their parents for the intervention group, but no differences in the language scores of children. Additionally, parents in the intervention group reported improvements in peer relationships, social communication and repetitive behaviours (figure 2). However, there was no significant difference between the two groups on measures of child anxiety, challenging behaviours (eg, conduct/oppositional disorder) or depression.

"Our findings suggest that sustained changes in autism symptoms are possible after early intervention, something that has previously been regarded as difficult to achieve," say Professor Tony Charman, who led the London arm of the trial and Professor Andrew Pickles, the study methodology expert, both from King's College London. "However, we found no evidence of any effect on child mental health, such as anxiety or challenging behaviours, suggesting that additional interventions may be needed to address these difficulties at later ages. As these children grow up, they will continue to need support in many aspects of their lives. We are currently working to further enhance our intervention."

The authors note that the study included children with core autism symptoms rather than wider autism spectrum disorder, and therefore cannot be sure how these results would apply to children with less severe symptoms. They also add that the study was a follow-up at age 7-11 years so does not provide information in how children's symptoms will

develop in adulthood.

Writing in a linked Comment, Professor Jeff Sigafos and Dr Hannah Waddington, School of Education, Victoria University of Wellington, Wellington, New Zealand, say that the authors of the study "have made a major contribution to autism research by providing new high-quality evidence to support the potential value of adding the PACT intervention to educational services for young [children](#) with autism spectrum disorder. Future research of this type could advance science by attempting to isolate the critical treatment components and mechanisms underlying sustained treatment gains. (The authors) suggest that their positive long-term outcomes stemmed from optimisation of parent-child social communicative interactions, which then become self-sustaining. Another possibility is that early interventions of this type enable neural development and normalise brain activity. Of course these two possible mechanisms are neither mutually exclusive nor exhaustive. Still, the emerging evidence favouring the PACT intervention and similar programmes suggests that some major, yet undetermined, developmental mechanism might be involved."

**More information:** *The Lancet*, [www.thelancet.com/journals/lan ...](http://www.thelancet.com/journals/lan...)  
 [\(16\)31229-6/fulltext](http://www.thelancet.com/journals/lan...)

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