

# Paediatric autism communication therapy improved long-term child outcomes

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## Paediatric Autism Communication Therapy is currently the only scientifically evidenced early social communication intervention to demonstrate long-term improved child social communication outcomes into middle childhood

Despite Autism being an enduring condition affecting 2% of people globally, evidenced intervention to improve the developmental impairments is limited. Paediatric Autism Communication Therapy (PACT) is currently the only scientifically evidenced early social communication intervention to demonstrate long-term improved child social communication outcomes into middle childhood. The PACT intervention has shown long-term improvement of autism core symptoms within randomised clinical trials (RCTs). PACT relatively low-intensity approach is referenced in UK national guidance for the new autism care pathway from pre- to post-diagnosis and education support.

### The evidence base

Within the NICE recommendations for intervention and support for autistic development in early childhood, only two interventions met the evidential criteria set by NICE for inclusion.

PACT was one of these (the other was JASPER). These two therapies were described as “social communication interventions” and their evidence was the basis for the NICE recommendation to services to consider social communication intervention for autism intervention. Both these therapies work with parents or teachers, and have evidence to improve autistic children’s social engagement, adaptation, communication, and in the case of PACT, autism symptoms. No other therapies were considered to have evidence of effectiveness. Recent independent reviews (e.g. Sandbank et al 2020) have reached similar conclusions. These findings should therefore guide evidenced commissioning of services in autism.

### How does Paediatric Autism Communication Therapy work?

Parents or caregivers are guided through the six steps of PACT by a certified professional using video feedback techniques delivered in 12 alienate week sessions for six months and monthly maintenance sessions for a further six months. Caregivers send a video of a 10-minute interaction or play with their child to the therapist before each video feedback session. PACT builds on existing skills by sharing and analysing the best video clips identifying new strategies and techniques, summarised in an individual written programme for 30-minute daily practice between sessions.

## **How is PACT different from other interventions?**

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PACT has some unique distinguishing differences from other parent-mediated interventions. Firstly, it is the only intervention to use effective video- feedback methods with parents and caregivers and to use them within a modern developmental science-based model to optimise the social communication environment for the neurodivergent child. Secondly, PACT is the only intervention that has shown long-term sustained effectiveness in high-quality clinical trials in improving child autism outcomes for six years after the end of intervention.

## **The Paediatric Autism Communication Therapy Trial**

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An RCT of PACT delivered pre-school demonstrated significant endpoint effects to reduce symptom severity on ADOS Calibrated Severity Score (CSS) and ADOS-2 total algorithm score (Pickles et al. 2016; Carruthers et al. 2021). At follow-up, six years after the endpoint, treatment effects on child symptoms, adaptive outcomes, and child initiations with a parent were significantly sustained (Pickles et al. 2016). Furthermore, a mechanism study of the long-term impact identifies the ‘active processes’ by which interventions achieve their effects and provides insights into causal processes in development.

### **PACT Trial Methods:**

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Of 152 children randomised to receive PACT or treatment as usual between 2-5 years of age, 121 (79.6%) were followed 5-6 years after the endpoint at a mean age of 10.5 years. Assessors, blind to the intervention group, measured Autism Diagnostic Observation Scale Combined Severity Score (ADOS CSS) for child symptoms and Teacher Vineland (TVABS) for adaptive behaviour in school.

### **PACT Trial Results:**

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The treatment effect on child dyadic initiation with the caregiver (Dyadic Communication Measure for Autism, DCMA) was sustained through the follow-up period. Increased child initiation at the treatment midpoint mediated the majority (73%) of the treatment effect on follow-up ADOS CSS. A combination of midpoint child initiations and the direct effect of treatment also mediated the near- significant effect on follow-up TVABS.

## **PACT Implementation**

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The scalability of early evidence-based intervention is a global health priority. A not-for-profit social enterprise IMPACT CIC (Interaction Methods for Paediatric Autism Communication Therapy), established in 2017, disseminates PACT through a cascading ‘train the trainer’ model and implementation trials.

Implementation trials test the feasibility, cultural acceptability and equal easy access to PACT in different contexts, including middle and low- economic settings.

PACT video feedback methods are ideally adapted to online videoconference implementation. Pilot testing of online PACT has proved acceptable, feasible and accessible to families; further large-scale trials are in progress.

## **Conclusions:**

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Early social communication intervention can improve child social engagement with long-term generalised outcome effects on developmental.

One thousand professionals have received PACT training, cascading PACT in twenty-six countries with six international implementation trials.

## **Implications for autism services**

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PACT is universally acceptable and feasible for implementation in different countries and cultures, enhancing autism care pathways from early identification and pre-diagnostic to post-diagnostic and education support.

PACT training is available for professionals with appropriate training and qualifications and a minimum of two years of experience in autism. Please visit the website [www.pacttraining.co.uk](http://www.pacttraining.co.uk) for more information on PACT training.

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