# AOTA Evidence Briefs

## Developmental Delay in Young Children

**A product of the American Occupational Therapy Association's Evidence-Based Literature Review Project*

### DD #9

## Touch therapy reduces symptoms in preschool children with autism

Field, T., Lasko, D., Mundy, P., Henteleff, T., Kabat, S., Talpins, S., & Dowling, M. (1997). Brief report: Autistic children's attentiveness and responsivity improve after touch therapy. *Journal of Autism and Developmental Disorders*, *27*, 333–338.

**Level: IB2b**

Randomized controlled trial, fewer than 20 participants per condition, moderate internal validity, moderate external validity

### Why research this topic?

Autism is absorption in self-centered subjective mental activity, especially when accompanied by marked withdrawal from reality. Once considered to be primarily psychiatric in nature, it now is generally thought to be an organic defect in brain development. Children with autism display several symptoms, among them aversion to touch. Research suggests that touch therapy may benefit such children.

### What did the researchers do?

Field and her colleagues (1997), variously affiliated with the University of Miami (FL) and Nova University (Fort Lauderdale, FL), investigated the effects of touch therapy on three problems commonly associated with autism: aversion to touch, limited attention span and excessive off-task behavior, and withdrawal from normal relationships with people.

The researchers selected 22 children with autism (12 boys and 10 girls) who had attended a special preschool half days for 2 years. Their average age was 4.5 years. They were randomly assigned to a touch therapy or a touch **control group** (see *Glossary*) (presumably with 11 children in each group). The children in the first group received touch therapy 15 minutes a day, 2 days a week, for 4 weeks. They remained clothed except for shoes and socks. A student volunteer massaged each child, applying moderate pressure and smooth stroking movements to the face, chest, stomach, legs, feet, arms, and back, in that order. With the other group, a student volunteer held a child in her lap with her arms around the child and engaged the child in a game. These sessions occurred with the same frequency as those for the children in the touch therapy group.

The researchers were interested in *touch aversion*, *off-task behavior*, *orienting to irrelevant sounds*, and *stereotypic behaviors* (all as measured by two 30-minute classroom observations); autistic behavior (as measured by their teachers on the Autism Behavior Checklist); and *social communication* (as measured by the Early Social Communication Scales). Assessments were conducted on the first and the last days of the study.

### What did the researchers find?

Touch aversion and off-task behavior significantly decreased in both groups. Orienting to irrelevant sounds and stereotypic behaviors **significantly** (see *Glossary*) decreased in both groups, but significantly more in the therapy group.

In terms of autistic behavior, children in the touch therapy group showed significant improvement on the Autism Behavior Checklist sensory scale, the relating scale score, and the total scale. The touch control group showed no significant changes.

On the communication assessment, the Early Social Communication Scale, the touch therapy group showed significant changes on all four scales (joint attention, behavior regulation, social behavior, and initiating behavior). Again, the touch control group showed no significant changes.

## What do the findings mean?

The findings support the use of touch therapy with preschool children who have autism. For the short term, the treatment decreased four symptoms of autism.

## What are the study's limitations?

- The DSM III R was used to diagnose autism.
- Recruitment of subjects and subject selection is unclear.
- Location of the study is unknown.
- All subjects attended preschool for the past 2 years.
- Training and reliability of researchers doing the treatment is not stated.
- Amount of treatment touch pressure through the children's clothes is not stated or replicable.
- Year of cohort unknown.
- Latency effects of treatment not measured (CNS [central nervous system] compromise).
- Both the control and treatment groups improved; the third group needed to control for Hawthorne effect.

## Glossary

**control group**—a group that received special attention similar to that which the treatment group received, but did not receive the treatment.

**significance (or significant)**—a statistical term; this refers to the probability that the results obtained in the study are not due to chance, but to some other factor (such as the treatment of interest). A significant result is one that is likely to be generalizable to populations outside the study.

Significance should not be confused with clinical effect. A study can be statistically significant without having a very large clinical effect on the sample. For example, a study that examines the effect of a treatment on a client's ability to walk may report that the participants in the treatment group were able to walk significantly longer distances than the control. However, if you read the study you may find that the treatment group was able to walk, on average, 6 feet, whereas the control group was able to walk, on average, 5 feet. Although the outcome may be statistically significant, a clinician may not feel that a 1-foot increase will make his or her client functional.

■ Terminology used in this document is based on two systems of classification current at the time the evidence-based literature reviews were completed: *Uniform Terminology for Occupational Therapy Practice—Third Edition* (AOTA, 1994) and *International Classification of Functioning, Disability and Health (ICIDH-2)* (World Health Organization [WHO], 1999). More recently, the *Uniform Terminology* document was replaced by *Occupational Therapy Practice Framework: Domain and Process* (AOTA, 2002), and modifications to *ICIDH-2* were finalized in the *International Classification of Functioning, Disability and Health* (WHO, 2001).

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