

# Therapy Linked to Autism Recovery

BY JEFF EVANS  
Senior Writer

BALTIMORE — Growing evidence suggests that a small minority of children with autistic spectrum disorder can recover from the condition to near-normal levels with only mild residual deficits, Deborah Fein, Ph.D., said at a meeting on developmental disabilities sponsored by Johns Hopkins University.

"We have no idea yet [whether recovery] is due to maturation of kids who have a certain type of autism or treatment effects. There are very few people who are looking at this, but there are a few groups that are starting to look at it now," said Dr. Fein, professor of psychology at the University of Connecticut, Storrs.

Early studies in the late 1960s and early 1970s included a small minority of children who moved off the spectrum, but in most cases the investigators did not point this out, which seems to imply that those children were misdiagnosed. More recent studies have found that early diagnoses are stable in most children with autistic spectrum disorder (ASD), but there is a subgroup that moves off the autistic spectrum. These children have been regarded as misdiagnosed by some, but evidence from other studies suggests that these children had unstable autism and "probably were not misdiagnosed," she said.

In one study, recovery from autism was reported in 9 of 19 children who received 40 hours per week of applied behavior analysis therapy (ABA). These children successfully completed normal first grade in a public school and had normal or above average IQ scores. They gained an average of 30 IQ points more than their counterparts in a control group of 40 children who received 10 hours per week of ABA; only 1 child in the control group recovered. Of the 10 other children in the intense ABA therapy group, 8 remained in the mildly impaired range, and 2 were profoundly retarded (*J. Consult. Clin. Psychol.* 1987;55:3-9)

In two attempts to replicate this study, there was substantial improvement in ABA-treated autistic children in areas such as cognition and academics but not in adaptive skills and behavior. Yet ABA therapists in the two studies did not report recovery among any of the children.

One recent study did replicate the results of the positive study with ABA therapy. After 4 years of treatment with ABA, 11 of 23 children with autism were in regular classes and scored normally on tests of IQ, language, adaptive functioning, and personality (*Am. J. Ment. Retard.* 2005;110:417-38). Although 3 of the 11 children needed classroom aides for attention problems and 1 would probably still meet criteria for ASD, the other 7 would probably meet criteria for an optimal outcome.

"This is a very exciting study," Dr. Fein said.

In general, studies have found that communicative language by 5 years of age and a good response to early intervention within 3 months are positive signs for a good prognosis. Higher IQs appear to be associated with better social, communicative, and adaptive behaviors as the child ages.

In Dr. Fein's clinical impression, the children near 4-6 years of age who make limited progress despite good intervention will be those with mental retardation "across the board," dense language disorder, or an intense need for repetitive behavior despite the appearance of normal cognitive potential at certain times. The presence of seizures also may indicate a poor prognosis.

Children with ASD have been shown to leave the spectrum but then reveal or develop another condition, such as ADHD. In a report, Dr. Fein described 11 children with ASD who developed clear-cut cases of ADHD by about 6 or 7 years of age. Eight of these children received intensive applied behavior analysis therapy while the other three participated in integrated or special education preschool. The children retained some mild residual features of autism, such as social awkwardness (but more impulsive and immature than aloof), perseverative interests, and occasional mild motor stereotypies (*J. Autism Dev. Disord.* 2005;35:525-34).

In those cases, the children may have had comorbid ASD and ADHD, leaving ADHD when autism resolved. These children also could have had a severe subtype of ADHD that presents as autism in the early years, but this may not be the case because the children looked "pretty indistinguishable from kids who stay autistic," she noted. Or it could be that attention impairment is a feature of ASD that remains when social, behavioral, and communication impairments subside.

In a separate ongoing study conducted by Dr. Fein and her colleagues, a group of 77 children who screened positive on the Modified Checklist for Autism in Toddlers at 2 years of age were later seen at 4 years of age, regardless of whether they were autistic or not.

Of the 61 children who had autism at 2 years of age, 46 also had it at 4 years of age. The remaining 15 children moved off the autistic spectrum. A total of 16 children were not autistic at either age but still screened positive because they had some problems, such as global developmental and language delays. No children who were nonautistic at 2 years of age became autistic at 4 years of age.

At 2 years of age, the 15 children in that study who left the spectrum were indistinguishable on measures of communication, socialization, symptom severity, and cognitive ability from children who remained autistic. But at 4 years of age, the "recovered" children reached almost normal levels on these measures, she said.

The only major difference between these groups at 2 years of age was in motor skills, in which recovered children had significantly higher scores that reached near-normal levels at 4 years of age.

In another study that will appear in the *Journal of Autism and Developmental Disorders*, Dr. Fein and her associates reported on 14 children aged 5-9 years with prior ASD diagnoses.

These children had IQ scores in the normal range, were placed in age-appropriate mainstream classes, and were considered to be generally functioning at the level of their normally developing peers.

They had normal performance on many measures, including different aspects of linguistic ability, expressive vocabulary, and sentence memory, and had adaptive skills in communication

and socialization.

But these children still had impairments in knowing the difference between mental state verbs (know, guess, estimate) and in reasoning about animate objects (not including people). They failed to produce good narratives, judged by such factors as being less likely to discuss major events and characters' motivations. They also were not good at understanding "second order theory of mind" situations, such as knowing "what does Johnny know that Suzie knows about what Rick thinks," Dr. Fein said.

But follow-up visits with these children at 9-12 years of age indicated that the children were "closing the gap" between themselves and normal children because their only remaining deficit was with mental state verbs.

Misdiagnosis of children who leave the spectrum appears unlikely, so the reasons why a small minority of autistic children can recover may lie in the possibility that they have a form of autism that can be alleviated with maturation or that their recovery was mediated by successful treatment or some interaction between treatment and their characteristics, she said.

These possibilities leave two big questions that remain to be answered, Dr. Fein said: Are the children for whom recovery is possible the ones with minimal structural brain abnormalities? When recovered children do a task normally, are they using the same brain systems as children who were never autistic? ■

# Comorbidities Are Common in Autistic Children

BY ROBERT FINN  
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SAN FRANCISCO — Data from a large national survey document very high levels of comorbidity among children with autism, James G. Gurney, Ph.D., reported at the annual meeting of the Pediatric Academic Societies.

Compared with children aged 3-17 years without autism, those with autism are 21 times more likely to be in poor health; are about 40 times more likely to be receiving speech therapy, behavioral treatment, or counseling; and are 11 times more likely to be using long-term medication, he said.

"Children with autism present with unusually complex emotional, behavioral, and medical needs," said Dr. Gurney of the University of Michigan, Ann Arbor. "Generalists may need to coordinate care among a variety of subspecialty consultants and service providers. And given the increasing prevalence of autism, pediatricians may find that they have to confront this type of situation much more than they used to."

Dr. Gurney and his colleagues used data from the Centers for Disease Control and Prevention's National Survey of Children's Health, a cross-sectional, population-based sample from 2003-2004 of more than 100,000 parents. Extrapolated to the entire U.S. population with stratified weighted sampling fractions, the investigators estimated the prevalence of autism at 53 per 100,000 children, an estimated total of 324,000 children nationwide.

In general, parents of children with autism judged their child's health to be significantly worse than did parents of children without autism. Parents judged 3.5% of their children with autism to be in poor health and 7.9% to be in fair health, compared with 0.4% and 2.9%, respectively, among nonautistic children.

After adjusting for child age and gender, primary household language, highest household educational attainment, and insurance status, autistic children had 21 times the risk of being judged in poor health and 7.7 times the risk of being judged in fair health, compared with nonautistic children.

Children with autism were 23 times more likely to be diagnosed with a behavioral or conduct disorder, 8 times more likely to have a diagnosis of ADHD, 15 times more likely to have a diagnosis of depression or anxiety, 4.5 times more likely to have a food allergy, and 2.4 times more likely to suffer from headache.

Children with autism had much more interaction with the medical system than those without, with parents mentioning significantly more preventive-care visits, nonemergency visits, and emergency visits during the previous 12 months. Ten percent of children with autism paid two or more visits to the emergency department during that period, compared with 4.9% of children without autism.

"Although not directly addressed in the study, these results speak to the heavy responsibilities that parents bear in caring for a child with autism," Dr. Gurney said at the meeting sponsored by the American Pediatric Society, Society for Pediatric Research, Ambulatory Pediatric Association, and American Academy of Pediatrics. "I bring this up because it's not unusual to hear that these parents are very high maintenance." ■

**After 4 years of treatment, 11 of 23 autistic children in one study were in regular classes and scored normally on tests of IQ, language, and personality.**