



AUTISM'S RISING PROFILE

On the Net

- NIH: www.ninds.nih.gov/health-and-medical/pubs/autism.htm
- NIH research: www.nichd.nih.gov/publications/pubs/autism/nmz/sub4.htm
- National Alliance for Autism Research: www.naar.org

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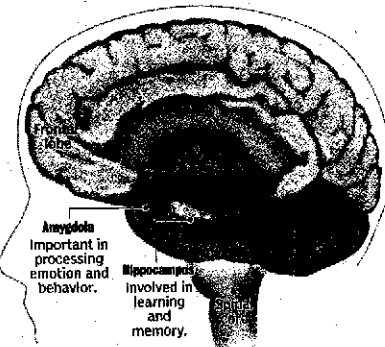
Janet Schneider / staff illustration

How autism affects the brain

Autism is a brain condition usually present from childhood and characterized by self-absorption and a reduced ability to communicate with the outside world. Areas of the brain affected by autism include the **amygdala** and the **hippocampus**.

Autism's affect on brain cells (neurons):

- Cells are smaller, more densely packed in certain areas.
- They have shorter, less developed branches.



Sources: Knight Ridder Tribune; Elsevier for "Neuroanatomy—Text and Atlas"

Arnel Beynon / staff graphic

By Lindsey Tanner
Associated Press

CHICAGO — Mention autism to parents, doctors and scientists these days, and among an earful of different theories will emerge a common nod of agreement: The perplexing condition is not nearly as rare as once was thought.

As recently as a decade ago, it was estimated that about four per 10,000 children were affected. Research now suggests the rate may be at least 10 times higher.

The numbers have fueled debates over whether there's been a true surge of cases and whether environment or genetics could be the cause. Some parents and research advocates blame vaccines, despite evidence to the contrary.

But many scientists point to two other explanations: The definition for autism has changed, and schools offer more educational services to autistic children.

In 1991, the U.S. Department of Education made autism a new, separate category for special education services offered at public schools. Those services tend to be broader and more intensive than for other disorders, including mental retardation. There's evidence that the 1991 change prompted what some call "diagnostic substitution," said Dr. Fred Volkmar, a Yale University autism researcher.

"Autism is kind of a fashionable diagnosis," Volkmar said. "Everybody's interested in getting better services."

Statistics seem to back up the theory. Department of Education figures show that the number of children getting services for mental retardation fell to 532,362 in 1992-93 from 553,262 in 1991-92. During those same years the number of children getting services for autism swelled to 15,580 from 5,415.

The change in school services and the definition, along with research showing that early intervention could help, raised awareness of the condition.

Autism used to be thought of as "the kid who sits in a corner watching the record player go around and around. Everybody said that's what autistic is, and anything else is not," said Chicago pediatrician Dr. Joel Schwab.

Now, autism is recognized as "being more than just the classic picture," said Schwab.

Molecular biologist Andy Shih, director of research and programs for the **National Alliance for Autism Research**, says that whether or not there's been a surge in cases, "what is clear is that autism is a seri-

As more and more children are being diagnosed with the disorder, demand for public services has grown.

Autism has raised deep questions ever since psychiatrist Leo Kanner first described it as a distinct developmental disorder in the early 1940s. It remains "a particularly challenging mystery."

Steve Fouts of the National Institute of Mental Health.

Autism

■ Some schools struggling to provide enough help. From E1

ous public health issue. "With potentially 1 million Americans afflicted with this disorder," Shih said, "it is no longer something that is rare or seldom seen."

Many schools are struggling to provide enough services to affected children, funding for research into causes has grown, and lawsuits blaming vaccines are proliferating.

"There's just so many kids who have been affected, it's hard to find somebody who doesn't know somebody who has a kid with autism," said Liz Birt of Wilmette, Ill., whose 9-year-old son, Matthew, is autistic.

Within seven blocks of their suburban Chicago home, five other children also are afflicted.

Autism even ended up in a debate over a last-minute provision attached to Homeland Security legislation enacted last fall. The provision, aimed at protecting Eli Lilly and Co. and other drugmakers from lawsuits over vaccine-related injuries, prompted vocal protests in Washington in January by parents who think childhood vaccines cause autism. The provision was later repealed.

While much has been learned about autism, many key questions remain. Researchers don't know if a single gene or many are involved, or possibly different ones in different cases.

Some think environmental factors might trigger the disorder. Potentially plausible but unproven triggers range from illness during pregnancy to soil toxins, electromagnetic waves and even vaccines, though strong evidence so far suggests the shots are safe.

Autism has raised deep questions ever since psychiatrist Leo Kanner first described it as a distinct developmental disorder in the early 1940s.

It remains "a particularly

challenging mystery," said Steve Fouts, director of neuroscience and basic behavioral science at the National Institute of Mental Health.

Kanner described what is now known as classic autism — children with severe impairments in language and communication, who may appear deaf, sometimes don't speak, show little eye contact and appear more interested in interacting with objects than with humans. Repetitive behaviors such as rhythmic finger tapping or ball-rolling are common.

Sometimes symptoms show up in children who previously appeared to be developing normally; some call this regressive autism.

It was initially linked to schizophrenia until 1980 when it first appeared as a separate disorder called "infantile autism" in the American Psychiatric As-

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sociation's manual defining mental disorders.

Autism is not curable but can be helped with behavioral treatment and sometimes with medication. Not all children with autism are mentally retarded, but most need special services.

Kathy Gould, project director for an Illinois program that trains teachers and parents how to work with autistic children, said demand has increased significantly in the past five years.

"Every day, more and more people in more and more district schools are saying these kids are coming in, and we don't know what to do with them," Gould said.

"Parent workshops have gone from three a year to 15 a year. Parents are crying out for additional help," she said.

Birt is among them. Her son developed normally until he was 15 months old, when he could count to 10 and say about 30 words. He developed autism symptoms gradually after receiving two vaccinations on the same day, Birt said. He stopped talking, acted as if he was deaf, spun in circles, stared at lights and shunned his family.

Vaccine foes like Birt point to a 1998 British study linking autism with the measles-mumps-rubella vaccine.

The Institute of Medicine reviewed the issue and in 2001 said there was no proof that autism is caused by the MMR vaccine or by the mercury-containing preservative Thimerosal that was present in some vaccines.

Lilly created and was the largest manufacturer of Thimerosal but no longer makes it. Lilly denies that its former product caused any autistic symptoms.

Dr. Neal Halsey, an influential vaccine proponent from Johns Hopkins University, agrees that Thimerosal could theoretically be linked with subtle developmental problems, including delayed speech, "but the available data show no evidence of an association with autism."

Still, the National Institutes of Health is funding studies to investigate the possibility of a link between vaccinations and autism. NIH funding for autism research has grown along with the number of cases, to \$73.85 million last year from \$22 million in 1997, Fouts said.

Recent research has led to important discoveries, including evidence that intensive behavioral training starting as early as infancy can improve symptoms in some autistic children.

Volkmar, at Yale, and colleagues have found that while healthy babies learn social interaction by focusing their gaze on people's eyes, autistic children focus more on mouths.

This could help parents and doctors identify affected children earlier and get them early intervention, Volkmar said.

About Autism

Causes

Researchers don't know if a single gene or many are involved, or possibly different ones in different cases. Some think environmental factors might trigger the disorder.

Some researchers believe that a virus, or even a bacterial infection, might trigger autism, though evidence so far supports that shots are safe.

Symptoms

At its classic, autistic children show severe impairments in language and com-

munication, may appear deaf, sometimes don't speak, show little eye contact and appear more interested in interacting with objects than with humans. Repetitive behaviors such as finger tapping are common.

Definitions

The third edition of the American Psychiatric Association's Diagnostic and Statistical Manual of Mental Disorders, published in 1980, for the first time described the disorder called "infantile autism."

It was initially linked to schizophrenia until 1980 when it first appeared as a separate disorder called "infantile autism" in the American Psychiatric Association's manual defining mental disorders.

In 1991, the U.S. Department of Education made autism a separate category for special education services offered at public schools.

A later update of the psychiatric manual now groups autism under a broad category called "Pervasive Developmental Disorders," which seems to refer to an autism spectrum disorders.