

Peering into children's brains to unlock juvenile mysteries

By Lauran Neergaard
THE ASSOCIATED PRESS

WASHINGTON — Only Michael Berman's small thumbs move inside the giant MRI machine, pushing buttons in a video game-like test as the scanner measures how the youngster's brain processes light and motion.

At 6, he's one of the youngest children to undergo such advanced scanning as part of a new effort to discover what goes wrong inside brains affected by autism.

It's work that might lead to much earlier diagnosis of the mysterious neurological disorder. It usually goes undetected until age 3 or later, when much of the damage to the developing brain is thought already to have been done.

"The feeling is if you intervene early, it'll be more effective," explains Dr. Thomas Zeffiro of Georgetown University Medical Center, who is researching technology that he hopes will go a step further and one day scan preschoolers' or even infants' brains.

"It's very controversial if there is a critical period" for thwarting autism, he cautions. "If there is, there could be a dramatic change in the way we approach kids with developmental disorders."

Autism is a complex brain disorder, most common in boys, best known for interfering with a child's ability to communicate and interact with others. Symptoms range from the mild, like Michael, to so severe that children can't speak and appear profoundly retarded.

No one knows the cause and there is no cure, although intense behavioral training can improve some patients' symptoms significantly.

As part of the new research, scientists at Georgetown and Children's National Medical Center are matching youngsters' behavior and cognitive skills with advanced imaging, called functional MRI, that tracks changes in blood flow to show how their brains fire when they do tasks.

Most previous studies have focused on autism's hallmark emotional and communication problems. Lead researcher Dr. William Gaillard of Children's National says these children's brains are being scanned to track the disorder's myriad other symptoms: sensory problems, motor control, problems with planning and reasoning.

So far, only "high-functioning" autism patients can undergo such detailed testing because of the cooperation required. Michael, for instance, has Asperger syndrome - excel-

lent language skills and the ability to read at 2, but he has social-interaction and other problems.

The scientists are attempting to perform functional MRI on children younger than ever before, to the delight of Michael, who intently quizzes them on the different sounds the noisy scanner makes as it focuses on different brain regions.

"Ooh, that one sounds kind of like an electric saw," Michael says. "Do this other one, it's the fastest, right?"

After just a day's testing, "he knows all the pulse-sequence names," marvels Zeffiro.

The taxpayer-funded MRI work is part of a bigger collaboration:

- Scientists at Baltimore's Kennedy Krieger Institute are hunting ways to detect autism as early as age 6 months through behavioral clues, such as how babies look at their parents' faces and follow their gaze, how they manipulate toys, how they respond to language.

Other Kennedy Krieger scientists are studying animals to see if autism is related to abnormal levels of the brain chemical serotonin, found in some patients.

- And Zeffiro is comparing the MRI images to easier-to-use technology that beams harmless infrared light through fiber-optic cables strapped on the head. Financed by an autism family group, the Nancy Lurie Marks Foundation, the idea holds out hope that "optical tomography" could provide a way to examine the brains of autistic toddlers or older but nonverbal patients who don't qualify for MRI.

It's all part of an increased national focus on autism spurred by families angered that the disorder has long been sparsely funded despite studies suggesting a 10-fold rise in cases in a decade. Most of the rise is thought to be better diagnosis, but autism's cause is unknown.

As a result, the National Institutes of Health last year began a five-year, \$65 million project, designating eight centers around the country to focus on cutting-edge autism research.

"We're trying to sift through what is the first sign of autism and how does it unfold," explains Dr. Rebecca Landa, who heads the NIH-designated Kennedy Krieger autism center and its Children's-Georgetown collaboration. But, "whatever we discover through autism is going to benefit children with a variety of developmental disabilities."

Lauran Neergaard covers health and medical issues for The Associated Press in Washington.

Suicide risk factors for blacks

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are about 30,000 suicides each year, according to the Centers for Disease Control and Prevention, which released the study Monday at its Epidemic Intelligence

Service conference in Atlanta.

Although suicide is more frequent among whites than blacks, blacks age 25 to 34 have higher suicide rates than whites in the same age group. Suicide is more com-

mon among elderly whites age 75 to 84 than blacks, health officials said.

On the Net:
Georgia Division of Public Health: <http://www.ph.dhr.state.ga.us/>
CDC info: <http://www.cdc.gov>

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Chemere

2/1/88



- Enjoys listening to music, playing video games and dancing
- Favorite school subject is Math
- Favorite sport is basketball
- Likes going to the beach
- Member of a Step Team
- Wants to become a Nurse

Chemere would enjoy a family that is active and could provide experiences that she has grown used to. She needs a family where she can feel love, security, and a sense of belonging. This family will need to be willing to allow her to develop some life skills, while providing guidelines and structure. She needs a home where she feels unconditionally accepted and is "just one of the family".



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