

## Research News from the Nation's Medical Schools and Teaching Hospitals

February 2008

### Capitol Hill Briefing to Focus on Autism

Autism, a severe developmental disorder, is more common in America's children than pediatric cancer, diabetes, and AIDS combined, according to Autism Speaks, an advocacy organization. In 2007, the Centers for Disease Control and Prevention (CDC) reported that autism affected one in 150 children in 2002. Historically, five out of every 10,000 U.S. infants were diagnosed as autistic. But in the early 1990s, this rate began to rise exponentially to as many as 60 out of every 10,000 newborns, CDC data show.

To learn more about medical research on autism, watch for information about the next Fulfilling the Promise Capitol Hill briefing on **May 19, featuring Thomas R. Insel, M.D., director of the National Institute of Mental Health**, one of 27 institutes and centers at the National Institutes of Health (NIH).

Investigators at the nation's medical schools and teaching hospitals, with support from the NIH, are conducting groundbreaking research to determine what causes autism, and how best to treat it. For example, last fall, Frances E. Jensen, M.D., a neurology professor at **Children's Hospital Boston**, received a 2007 NIH Pioneer Award that will allow her to examine how seizures in early life lead to cognitive disorders such as autism. In January, a team funded by the National Institute of Mental Health and led by researchers at **Johns Hopkins University School of Medicine** announced its discovery of a genetic variation that may raise the risk of developing autism.

These projects and a host of others like them happen as a result of the powerful teamwork taking place every day between the NIH and the research engines of America's health system—medical schools and teaching hospitals.

### More NIH-funded research advances from U.S. medical schools and teaching hospitals:

#### Possible trigger for Parkinson's discovered

A glitch in the mechanism by which cells "recycle" damaged components may trigger Parkinson's disease, according to a study by scientists at the **Albert Einstein College of Medicine of Yeshiva University**. The research could lead to new strategies for treating Parkinson's and other neurodegenerative diseases. All cells depend on a process known as autophagy to digest and recycle damaged molecules. Mutant forms of a protein known as alpha-synuclein, found in 5 to 10 percent of familial Parkinson's disease patients, are poorly digested via autophagy and may accumulate inside the cells.

<http://www.aecom.yu.edu/home/news/PRdetails.asp?isPR=1&id=395>

#### Neurological cause may lie behind poor decision-making among older adults

**See How the NIH Supports Medical Research**  
[www.aamc.org/ftp/nih.htm](http://www.aamc.org/ftp/nih.htm)

#### Medical Firsts

Search for medical research contributions made by medical schools and teaching hospitals in your state or district. Go to:  
[www.aamc.org/innovations](http://www.aamc.org/innovations)

#### Learn More

[Teaming Up to Improve Health](#)  
(PDF, 3 pages)

[Making Inroads into Alzheimer's Disease](#) (PDF, 3 pages)

[Medical Firsts: Advances Pioneered at America's Medical Schools and Teaching Hospitals](#) (PDF, 2 pages)

[All Fact Sheets](#)

"Fulfilling the Promise" is a special AAMC initiative highlighting the collaboration between the National Institutes of Health (NIH) and academic medicine. As research engines of the U.S. health system, the nation's medical schools and major teaching hospitals are awarded more than half of all NIH grants to scientists through its extramural research program.

[www.aamc.org/ftp](http://www.aamc.org/ftp)

#### AAMC Contacts

Dave Moore  
Senior Associate Vice President, Governmental Relations  
202-828-0525  
[dbmoore@aamc.org](mailto:dbmoore@aamc.org)

Retha Sherrod  
Director of Public Relations, Office of Communications

More than one-third of older adults tested in a recent study had measurable neuropsychological deficits that seemed to lead to poor decision-making—an increased vulnerability to fraud. Findings from a reasoning test of 80 healthy older adults at the **University of Iowa Roy J. and Lucille A. Carver College of Medicine** found that 35 to 40 percent had deficits in the brain's ventromedial prefrontal cortex, which appears to be critical for good decision-making.

<http://www.news-releases.uiowa.edu/2008/january/011408decisionmaking.htm>

### **Hormone may be new drug target for preventing lymphedema, tumor spread**

A hormone secreted by cells and known to play a role in cardiovascular disease is also critical for proper formation of the lymphatic system, according to data from the **University of North Carolina at Chapel Hill School of Medicine**. By targeting the hormone adrenomedullin, investigators may be able to treat the more than 100 million people affected by lymphedema, which causes painful swelling of the limbs.

<http://www.med.unc.edu/www/news/hormone-may-be-new-drug-target-for-preventing-lymphedema-tumor-spread>

### **Colon cancer mutation traced back to 17th-century pilgrims**

A married couple who sailed from England to America around 1630 may have carried a mutation that still contributes to a significant percentage of colon cancer cases in the United States.

Researchers from the **University of Utah School of Medicine** who discovered this mutation suggested that more families than previously thought could carry this higher risk for colorectal cancer. The mutation causes a condition called attenuated familial adenomatous polyposis that, without proper clinical care, can lead to greater than a 2 in 3 risk of colon cancer by age 80.

<http://healthcare.utah.edu/publicaffairs/news/current/news%20item4.html>

### **“Mini stress tests” help protect against heart attacks**

People who experience brief periods of blocked blood flow to the heart may be better conditioned to survive a full-blown heart attack later, according to new research from the **University of Cincinnati Academic Health Center**. When the heart experiences short periods of stress, either from reduced blood flow or high blood pressure, it activates a protective molecular pathway—known as JAK-STAT—that protects the heart muscle.

<http://healthnews.uc.edu/news/?/6209>

### **Breast cancer tumors found to have stem cells**

Investigators at the **University of Michigan Comprehensive Cancer Center** discovered a marker that can be used to identify stem cells in breast tumors, suggesting a potential simple test that could help determine the best treatment for breast cancer. The finding also provides support for the hypothesis that a small number of cancer stem cells are responsible for tumor growth.

<http://www.med.umich.edu/opm/newspage/2007/cancermarker.htm>