



A Better Quality of Life for Stroke Victims

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Stroke is the third-leading cause of death and a leading cause of long-term disability and cognitive decline in the United States, according to the Centers for Disease Control and Prevention (CDC).

A stroke affects the arteries leading to and inside of the brain, and occurs when a blood vessel carrying nutrients to the brain is either blocked by a clot or bursts. According to the American Stroke Association, there are more than 780,000 strokes each year in the United States, or one stroke every 40 seconds. The stroke association also estimates that stroke-related medical and disability expenses will cost Americans \$65 billion in 2008. Though strokes can occur at any age, CDC statistics show that nearly three-quarters of all strokes occur in people over age 65—a figure of particular concern given that 20 percent of the population, or 78 million Americans, will be 65 or older by 2030.

But research conducted at the nation's medical schools and teaching hospitals and supported by the National Institutes of Health (NIH), particularly its National Institute of Neurological Disorders and Stroke (NINDS), has led to more effective treatments for stroke patients, and a better understanding about how the brain recovers after a stroke.

An NIH-funded study under way at the **Medical College of Georgia School of Medicine** (MCG) could help minimize the damage a stroke inflicts. Minocycline, an old intravenous antibiotic, appears to reduce stroke damage by inhibiting white blood cells and enzymes that can destroy brain tissue and blood vessels. The antibiotic also seems to reduce cell "suicide" in the minutes and hours following a stroke, enabling more cells to recover. MCG is leading an experiment that will examine the drug and its effects in 60 stroke patients. In a previous MCG study on animals, minocycline reduced stroke damage by up to 40 percent when administered within six hours of a stroke, then every 12 hours for up to three days thereafter.

Learn more about the latest NIH-funded research to treat and prevent strokes at the AAMC's next Fulfilling the Promise Capitol Hill Briefing July 14.

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

Nanotechnology could help heal spinal trauma

An NINDS grant made possible a recent breakthrough by

Mark Your Calendars! July 14, 2008

Fulfilling the Promise Capitol Hill Briefing "Stroke Prevention and Treatment"

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"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

researchers at **Northwestern University Feinberg School of Medicine** that could pave the way for new treatments for spinal cord injuries. The research team used nanotechnology to create a “scaffold” at the site of a spinal cord injury to support new nerve growth. The scaffold is made of a new carbon-based molecule polymer that is 10,000 times finer than a human hair, and which ultimately assembles into a “nanogel” upon contact with bodily tissues or fluids. In mice, a single injection of the polymer given one day after a spinal cord injury led to functional improvements that would be life-changing in humans.

www.northwestern.edu/newscenter/stories/2008/04/SpinalCordInjury.html

Quitting smoking is a family affair

When smokers kick the habit, odds are they are not alone in making the move. Instead, the decision to quit smoking often cascades through social networks, according to research from **Harvard Medical School** and the **University of California, San Diego, School of Medicine**. When a husband or wife quits, it decreased by 67 percent the chances of his or her spouse smoking. A friend quitting decreased the chance of smoking by 36 percent among his or her friends.

www.nia.nih.gov/NewsAndEvents/PressReleases/PR20080521smoking.htm

Better management tools for common lung conditions

Researchers at **Washington University School of Medicine in St. Louis** have uncovered a potentially new means of diagnosing severe asthma and chronic obstructive pulmonary disease (COPD). The study revealed a certain type of immune response to a viral infection, which could be detected and used to more precisely diagnose and monitor these types of diseases and better target treatment to specific abnormalities.

www.mednews.wustl.edu/news/page/normal/11806.htm

How a virus replicates itself

There is new information on how a virus invades and conquers a cell and then uses that cell to reproduce itself. A **University of Wisconsin School of Medicine and Public Health** study found that a viral protein, called UL97, masquerades as a normal enzyme to modify a tumor-suppressing protein in human cells. But unlike the normal enzyme, which can be switched on and off by the cell as needed, the viral stand-in lacks an “off” switch and evades cellular control. www.news.wisc.edu/15213

NIH grants to scientists through its extramural research program.

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