

# SOUTHWESTERN NEWS

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**EMBARGOED UNTIL 3 P.M. CDT THURSDAY, SEPT. 6, 2001**

## **AMPHETAMINES PAIRED WITH THERAPY MAY RELIEVE STROKE-RELATED SPEECH PROBLEMS, RESEARCHERS REPORT**

DALLAS – Sept. 7, 2001 – Stroke patients who take an amphetamine before speech-language therapy regain their speech at a faster rate than patients who go through speech-language therapy without the drugs, UT Southwestern Medical Center at Dallas researchers report.

In the Sept. 7 issue of *Stroke: Journal of the American Heart Association*, Dr. Hal Unwin, associate professor of neurology and director of UT Southwestern's stroke program, reports that patients with aphasia, or the loss of language and communications skills, recover more speech and language faster if given a low-dose amphetamine half an hour before speech-language therapy.

“Aphasia is one of the most common side effects of stroke, and it is caused by a direct injury to the language center in the brain,” said Unwin. “Speeding up the patients' rate of recovery is vitally important.”

Unwin and his colleagues studied 21 patients with aphasia caused by stroke. Patients entered the double-blind study between 16 to 45 days after their stroke. All patients received speech and language therapy in 10 one-hour sessions over five weeks. Some patients received dextroamphetamine 30 minutes before each speech-therapy session, and some patients received a placebo before their sessions.

Dr. Delaina Walker-Batson, clinical associate professor of radiology and neurology at UT Southwestern and professor of communication sciences and disorders at Texas Woman's University, was lead author of the paper.

“This is not a panacea. Patients recover some speech skills depending on the severity of the stroke,” she said. “We have studied some very severely affected patients who have had an increase in both the rate and extent of their recovery with the drug and therapy combination. Because patients receive less rehabilitation now, drugs can be an important addition to their

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rehabilitation. If you can communicate very little and you recover enough language to go to a restaurant and order, it really changes your quality of life.”

UT Southwestern researchers have been testing amphetamines paired with physical and speech therapy in stroke patients for several years. They theorize the drug may work by releasing a neurotransmitter called noradrenaline, which may help a stroke patient’s brain cells wake up and be more responsive. Noradrenaline is known to be involved in learning and memory.

Previous studies, including one published by Unwin, Walker-Batson and Patricia Smith, UT Southwestern assistant professor of physical therapy, in *Stroke* in 1995, have shown the drug can have an effect on motor skills. In their 1995 study, the researchers paired administration of dextroamphetamine with physical therapy. Patients recovered at a greater rate with the drug and physical therapy than with physical therapy alone. And in 2000, Unwin and Walker-Batson reported that patients who received the dextroamphetamine suffered no adverse reactions.

“It’s not the drug alone, it’s the drug paired with treatment,” Walker-Batson said. “There’s a natural plasticity in the brain, and the drug seems to recruit parts of the brain that haven’t been used before.”

Stroke is one of the leading causes of adult disability, and 4 million Americans are living with the effects of a stroke. According to the National Stroke Association, stroke is the nation’s third leading cause of death, killing nearly 160,000 Americans every year.

Researchers from Texas Woman’s University, Southern Methodist University, UT Health Science Center at Houston and the Veterans Affairs Northern California Health Care System participated in the study.

The study was funded by the National Institutes of Health.

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