

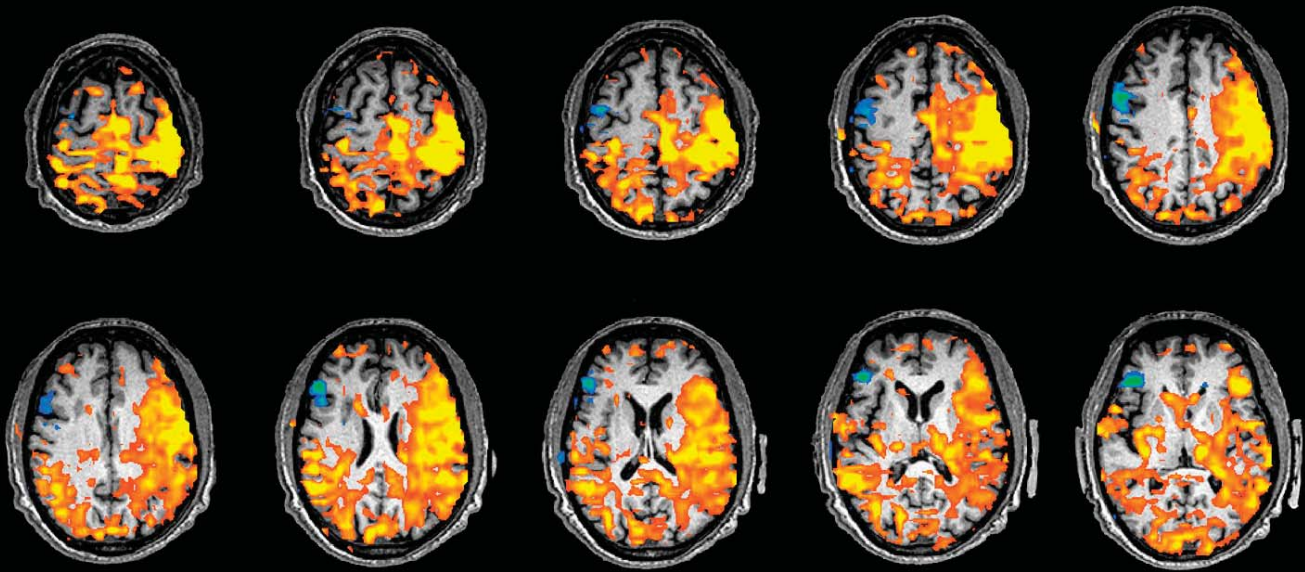
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As a clinician working with stroke patients in California in the late 1980s Patricia Pohl, PhD, PT, was troubled to discover that many of the interventions used by physical therapists were not grounded in scientific evidence.

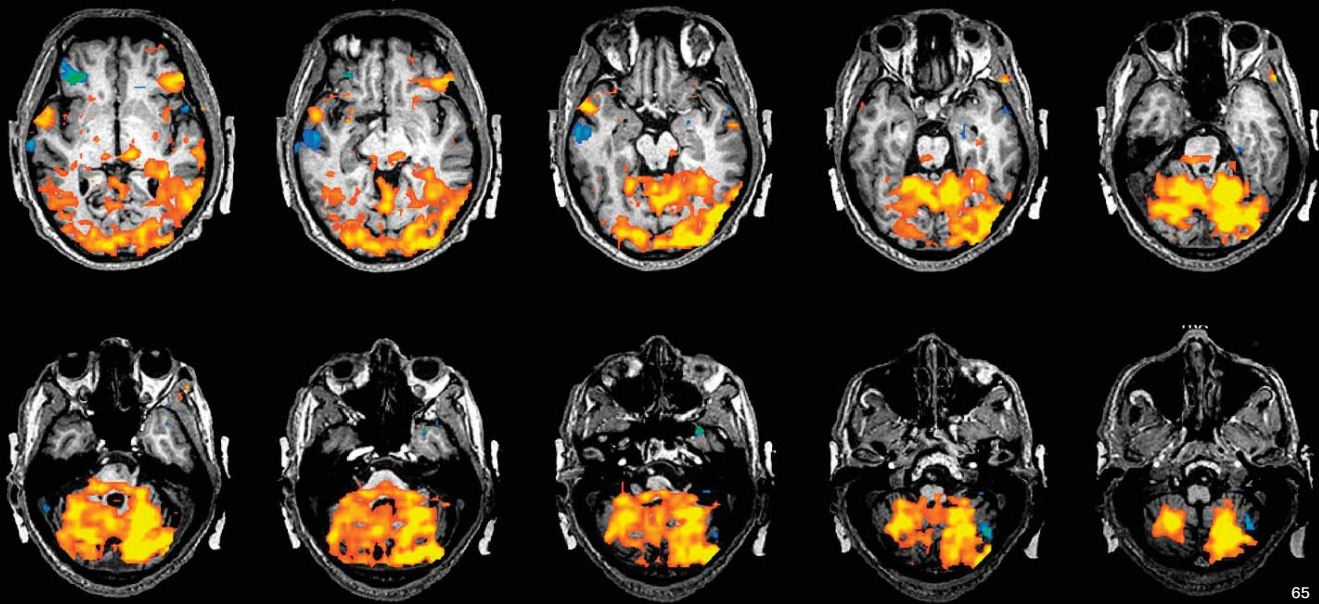
“The physical therapists relied solely on their observations,” she said. “Some interventions made sense and some did not.” With this experience, when Pohl joined the faculty of the University of Kansas School of Allied Health in 1995, she was eager to do research that would provide clinicians with scientific information they could use to guide their rehabilitation efforts with patients who had a stroke.

With approximately 700,000 new strokes occurring each year, stroke is the leading cause of disability in the United States, noted Pohl, associate professor in the Department of Physical Therapy and Rehabilitation Science. Faced with statistics like these, Pohl believes the need for physical therapists who are well versed in scientifically based rehabilitation techniques will continue to grow.

Currently, Pohl is the principal investigator for a study that grew out of a pilot project supported by the National Institute on Aging. The pilot project was led by Susan Kemper, PhD, a professor of psychology at the University of Kansas on the Lawrence campus. The pilot study examined what happened when



Evidence of Change?



60.9

PERCENT OF TOTAL STROKE DEATHS
ARE WOMEN

73.9

DEATH RATE FROM STROKE FOR BLACK MALES PER 100,000
(COMPARED WITH 48.1 FOR WHITE MALES)

5.7 Million

STROKE SURVIVORS ALIVE TODAY IN THE U.S., MANY
WITH PERMANENT STROKE-RELATED DISABILITIES

people who had a stroke, but had no clinically evident language problems and were able to walk independently prior to the stroke, tried to walk and talk at the same time afterward. “We found that this group of stroke survivors could walk and talk when they were asked to do each task by itself, but when asked to perform the two together, both skills deteriorated,” Pohl said.

The results of this pilot program piqued her curiosity and raised new questions. “Do all people with stroke have this problem? How does the site of brain damage relate to the presence of these dual-task deficits?” she wondered.

In 2005, with funding from the Heartland Affiliate of the American Heart Association, Pohl and Kemper launched a two-year study to examine the relationship between the site of a brain lesion and a person’s ability to perform two tasks at once. Study participants include both stroke survivors and those who have not had a stroke so researchers can compare the behavior of the two groups. Partici-

pants who have had a stroke receive Magnetic Resonance Imaging at the Hogle Brain Imaging Center at The University of Kansas Medical Center (KUMC) to determine the location of the brain lesion. All participants are tested in the Functional Performance Laboratory at KUMC. Audio and video recordings of their performance are made for later processing. Participants are tested as they walk, talk and perform finger movements. “We compare their performance in doing each task alone to their performance doing pairs of tasks,” Pohl explained.

“All of our physical therapy measures of deficits after stroke require the patient to do just one activity at a time, but that’s not what the real world is like. We’re hoping to identify and learn more about these deficits to inform clinicians in their practice. We know that, in general, people get better at what they practice,” she said. “So rather than have stroke patients practice tasks in isolation, they may benefit from practicing doing two things at once, like we do in our everyday experience.” Pohl will seek



PERFORMING TWO TASKS together at one time has revealed impairments in motor function in stroke survivors who otherwise appeared to be doing well on single tasks individually. Dr. Patricia Pohl (left) has launched a two-year study to examine these deficiencies and their relationship to the site of the brain lesion.

an extension to this project and will begin her analysis after collecting all the data.

In addition to this study, Pohl is collaborating with KUMC colleagues Joan McDowd, PhD, and Jeff Burns, MD, on a pilot study that will begin to examine an intensive cognitive intervention for stroke survivors and individuals with mild cognitive

dysfunction. “We’re having people come for two weeks and participate in a full day of cognitive training. Some tasks are computer-based and some are paper-based, but they all look at memory, attention and problem solving,” she said.

During her tenure as a researcher at KUMC, Pohl has been pleased to see how eager stroke survi-

vors are to participate in research programs so that others may be helped in the future. “In the ten years I’ve been here, we’ve made great strides in the scientific evidence about stroke rehabilitation, but we still have a long way to go,” she said. “The more you learn about something, the more questions you have.” ■