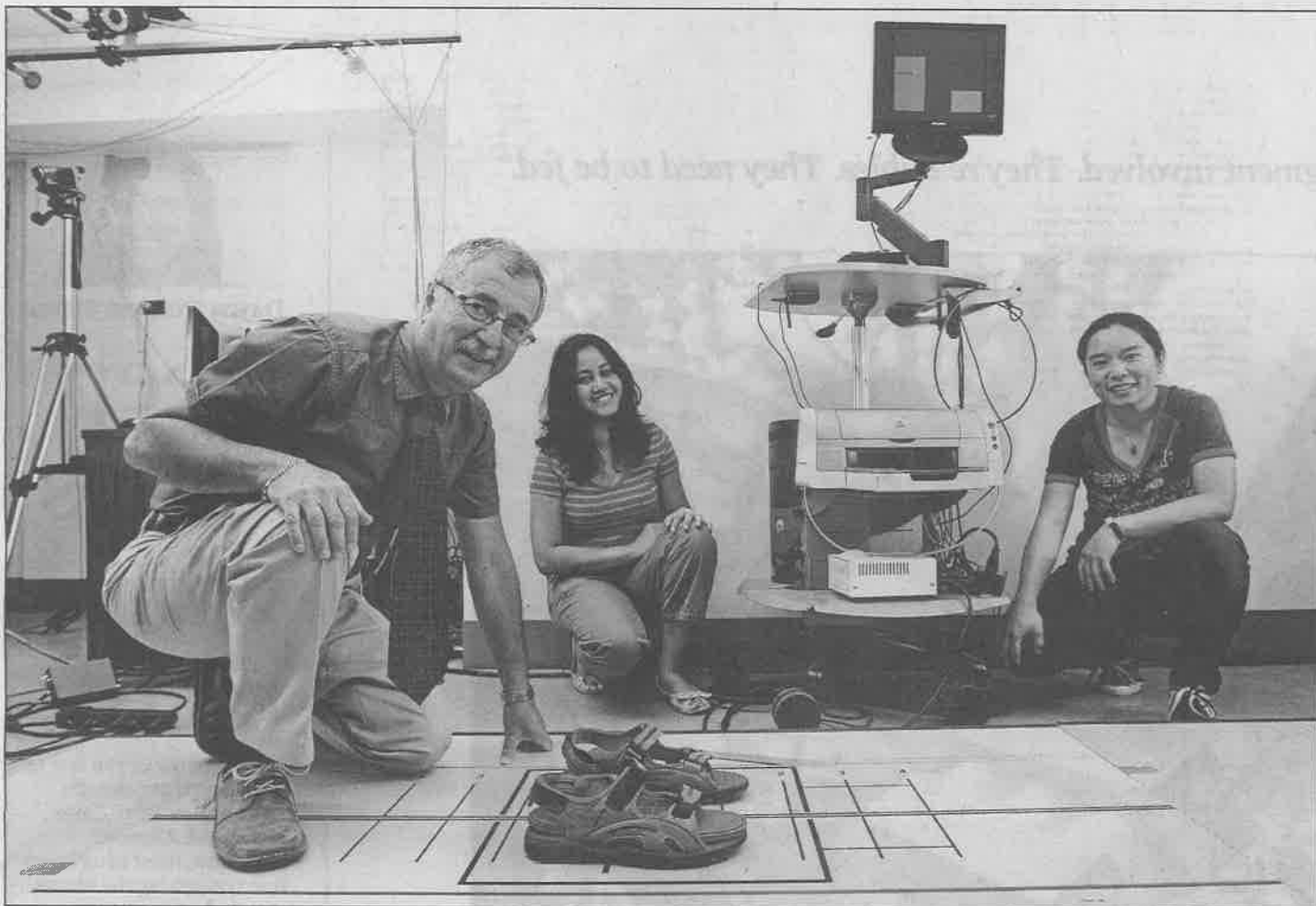


HEALTH



ALEX GARCIA/TRIBUNE PHOTO

University of Illinois at Chicago physical therapy professor Alexander Aruin, from left, with Ph.D. candidate Neeta Kanekar and post-doctoral fellow Yun-Ju Lee test shoe inserts on a dual force platform that measures weight distribution between the right and left leg.

A little bit of sole helps victims of strokes improve walking

Study shows better mobility for patients using shoe inserts

By JESSICA TORACMAN
Special to the Tribune

A shoe insert less than half of an inch high helped Phillip Conybear regain his balance after he suffered two strokes.

"Ever since the first stroke (in 1993), I have had really bad balance," said Conybear, 61, of Woodridge, who suffered a second stroke in 2009. The insole helped him because it makes "your mind aware of what you're doing all the time. Little things like that always help," he said.

Conybear used the insole for six weeks as part of a research study at the University of Illinois at Chicago and Marianjoy Rehabilitation Hospital in Wheaton.

Researchers studied two groups of patients who received the insoles and compared them with control groups of patients who did not have the insoles. The first group with the insoles

was made up of 11 participants who had a stroke an average of 15 days before the study. The second group with the insoles was made up of 18 people who had a stroke more than a year before. All of the study's participants received similar physical therapy treatments.

The patients with the recent strokes were at UIC, and those who suffered strokes more than a year before were at Marianjoy.

Stroke is the leading cause of adult disability and the fourth-highest cause of death in the United States, according to the American Stroke Association. A stroke, which can cause partial paralysis, takes place when brain cells suddenly die because blood flow to part of the brain has been interrupted.

Some stroke patients lean more on the healthy side of their bodies when they move, said lead investigator Alex Aruin, a UIC professor of physical therapy. "The patient is not really stable," he said. "They might be prone to falls. ... We selected individuals leaning on the healthy side."

The research involved adding an insole to the shoe on the

participants' healthy side, which caused them to place equal weight on both sides.

The results were encouraging, Aruin said.

"In both populations, patients with the shoe inserts improved body weight significantly, increased the weight on the affected side and improved their gait velocity. This suggests that the experimental treatment is beneficial," he said.

In addition, patients given insoles walked faster and had better body-weight distribution than those in the control groups, Aruin said. "It shows better, more even steps," he said.

A National Institutes of Health grant supported the study, which ran from 2007 to 2011, he said. The results were published in the *ISRN Rehabilitation* journal in May. A second paper about the study will be in an issue of the *Topics in Stroke Rehabilitation* journal.

The next steps could include additional studies, with larger numbers of patients, and perhaps studying how additional treatment time can help patients, Aruin said.

Dr. Anjum Sayyad, co-medical director of the day rehabilitation program at Marianjoy, said she thought the study was "very good." The only aspect of the study that concerned her was its relatively small size, Sayyad said.

"It's not to say it's not helpful; we just don't know. It's worth trying because it's not an expensive intervention.

The shoe wedge could improve gait, balance and the speed of their walking. It's a good starting point. It invites a lot of questions to look at future studies," Sayyad said.

Conybear said he's glad he used the insole.

"Most people think that a stroke is the end of life, but for me it's a whole new chapter in my life. I always wanted to live to 106, but now I'm happy to make it to 80 years."

"It's a good starting point."

— Dr. Anjum Sayyad, co-medical director, Marianjoy