

Daily walk cuts dementia risk, studies show

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Everyone knows walking is good exercise, but it has another benefit: a daily 20-minute walk can also cut the risk of dementia by 40 percent, studies show.

Taking those findings a step further, neurologists at Jacksonville, Fla.'s Mayo Clinic are studying whether getting [patients](#) immobilized by disease to walk can also help stave off mental decline.

Dr. Jay Van Gerpen, a neurologist who specializes in gait, is recruiting Parkinson's patients for a study to help them stay on their feet and retain [brain](#) health.

"Walking is a window to the brain," said Van Gerpen. Regular walking not only helps preserve brain function in healthy people, but also protects against further damage caused by dementia, Alzheimer's and diseases like Parkinson's, a degenerative disease that causes tremors, motor impairment and cognitive decline.

When someone's gait changes - steps get shorter or pace slows - that frequently indicates the brain is damaged. Thus, walking problems are common in those with dementia and Parkinson's, because these conditions cause brain cells to die.

Walking not only slows that progression, but helps brain cells recover by forming new connections, Van Gerpen said.

Van Gerpen invented a laser device several years ago that helps

Parkinson's patients walk better.

The device attaches to walkers or canes and shoots a red laser beam in front of the person walking. Visual cues can help Parkinson's patients walk without freezing. When patients focus on stepping over the line, they access the visual part of the brain, which bypasses the motor output area that isn't working, Van Gerpen said.

The device was a game-changer for Wayne Puckett of Clermont, Calif. Four years ago, the 48-year-old started having tremors, followed by difficulty walking and memory problems.

Puckett said gait freezing was the biggest issue. "I would just come to a halt, especially at doorways," he said. The former postal worker used to be able to memorize two zip codes worth of street addresses, but that ability was gone.

In March 2010, he went to the Mayo Clinic in Jacksonville, where Dr. Van Gerpen diagnosed him with a form of Parkinson's and gave him a Mobilaser that attaches to his walker.

The first time Puckett used the Mobilaser, which is now distributed worldwide and costs \$400, he couldn't believe the difference. "I was almost walking like normal. I was in sheer amazement. It still amazes me."

It helped in other ways, too.

"When I wasn't able to move as much, I noticed my brain was much worse," Puckett said. "With the laser I can move, get around, and am definitely able to concentrate better."

In a 2012 study, Van Gerpen's team studied a small group of Parkinson's

patients who had difficulty walking. By using the laser, they cut in half both the time it took them to walk a course, and the number of times they came to a halt, said Van Gerpen. His new study aims to prove that the laser helps patients walk every day, over months and years.

"Getting these patients walking is extremely helpful because it helps the brain's [blood flow](#) and reduces mental and muscle decline," said Dr. Nizam Razack, a neurosurgeon at Florida Hospital Celebration Health who performs brain surgery on Parkinson's patients to help improve their [motor impairment](#).

But beyond helping those with Parkinson's, a daily walk has broader implications for Americans who are developing dementia at an epidemic rate, said Van Gerpen.

Dementia is on the rise not just because Americans are living longer, but because they have so much vascular disease. "Dementia is related to obesity, high blood pressure and diabetes," he said. All these conditions impair blood flow to the brain.

"When blood flow in a large vessel to the brain gets blocked, a person has a stroke," said Van Gerpen. "When small vessels get blocked, brain tissue also dies. You just don't notice it at that moment."

Walking reduces the risk of small vessel damage. That will delay the onset of dementia and help protect what function is left.

The device has also helped Kenneth Sikora of The Villages, put one foot in front of the other again.

Sikora, age 66, has lived with Parkinson's for more than 20 years. He had been using a walker to get around "but not getting very far," said his wife, Kathryn Sikora, who speaks for her husband because he has

difficulty talking.

"Now, he's up and moving hours a day now as compared to not at all," his wife said.

Puckett estimates he's walking at least three times as much, at double or triple the speed than before he had the laser. He and his wife now go to the theme parks and places like Downtown Disney, which was impossible before.

"I can't believe how something so simple can make such an in impact," he said. "Anything that gets you up and out and doing is worth it."

ROBOTS AID PARKINSON'S

A surgeon at Florida Hospital Celebration Health is using a robotic device to treat patients with Parkinson's and help them stay on their feet. Robotic surgeon Nizam Razack is using deep brain stimulation to help alleviate the tremors and rigidity that accompany Parkinson's, and make simple acts of daily living difficult.

Using a Mazor Robot, a smart device about as big as a soda can, Razack places electrodes inside patients' brains to stimulate specific areas. The electrodes, which stay in the brain permanently, have been shown to improve shaking and rigidity in many patients.

Razack, a neurosurgeon, has performed the procedure without robotic assistance more than 1,000 times, he said, and with the robot 10 times.

The robot is another way of doing the procedure, and can aid precision by helping surgeons place electrodes within one millimeter of the target, he said.

The benefit for Parkinson's patients: Many who couldn't walk or hold a cup before now can.

HOW TO GROW YOUR BRAIN

Researchers at the University of Pittsburgh found that walkers increased the size of their hippocampus, the region of the brain that controls new memories, by 2 percent after one year of walking 40 minutes three times a week.

The researchers divided 120 older adults, average age 66, who did not have [dementia](#), into two groups: a stretching group and a [walking](#) group. The group that walked increased their hippocampus, while the stretching group showed no improvement, according to the 2010 study published in the *Proceedings of the National Academy of Sciences*.

Normally, that area of the brain decreases about 1 to 2 percent a year in adults, said Dr. Jay Van Gerpen, increasing their risk for developing Alzheimer's.

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