

# Gentle touch may aid multiple sclerosis patients

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(PhysOrg.com) -- While gripping, lifting or manipulating an object such as drinking from a cup or placing a book on a shelf is usually easy for most, it can be challenging for those with neurological diseases such as multiple sclerosis or Parkinson's, or for people who had a stroke. For them, the tight gripping can cause fatigue, making everyday tasks difficult.

A team of University of Illinois at Chicago physical therapists report this month in the journal *Neurorehabilitation and Neural Repair* that persons with multiple sclerosis use excessive force when they are lifting objects. In an earlier finding reported in the journal *Clinical Neurophysiology*, they reported that regaining control and coordination may be as easy as applying a gentle touch to the affected hand from a finger of the opposite hand.

"We studied how this light touch application changes the way people apply force to an object they want to grip," said Alexander Aruin, professor of physical therapy. The study compared eight adults with [multiple sclerosis](#) to eight without the disease, gender-matched and of comparable age. "In each case, the grip force required to lift an object decreased," said Aruin.

He found similar results in an earlier study he did of people with arm weakness caused by a stroke.

Why the simple light finger touch application works so well is not fully

understood, but Aruin offers a hypothesis.

"It could be due to auxiliary sensory information from the contra-lateral arm," he said. "When we use our second hand and touch the wrist of the target hand, available information to the [central nervous system](#) about the hand-object interaction may increase. Without the touch, the information needed to manipulate an object comes only through vision and [sensory input](#) from just the target arm and hand."

Aruin and his colleagues tested subjects gripping and lifting a variety of objects that they moved in several different ways, directions and velocities. The gentle finger touch always helped to reduce grip force, making the task easier.

The UIC researcher said he and his colleagues plan to test the approach on those with other neurological and muscular diseases to examine the effects.

"We look forward to developing training and rehabilitation procedures on how to use this," said Aruin. "We know that MS patients are prone to fatigue and muscle weakness. This finding may enable them to perform daily activities more independently to improve their quality of life."

Source: University of Illinois at Chicago ([news](#) : [web](#))

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