

Magnetic stimulation of brain may help some stroke patients recover

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Imagine waking up and being unable to see or recognize anything on the left side of your body. This condition, called hemispatial neglect, is common after a stroke that occurs on the right side of the brain. The current treatment of attention and concentration training using computer and pencil-and-paper tasks is inadequate.

A new study published in the December 13, 2011, online issue of *Neurology*, the medical journal of the American Academy of Neurology shows that magnetic stimulation of the [nerve cells](#) in the brain may speed up the recovery from this condition. In transcranial magnetic stimulation, a large electromagnetic coil is placed against the scalp. It creates electrical currents that stimulate nerve cells.

"The treatment is based on the theory that hemispatial neglect results when a stroke disrupts the balance between the two hemispheres of the brain. A stroke on one side of the [brain](#) causes the other side to become overactive, and the circuits become overloaded," said study author Giacomo Koch, MD, PhD, of the Santa Lucia Foundation in Rome, Italy.

The study involved 20 people with hemispatial neglect. Ten received 10 sessions of magnetic stimulation over two weeks. The other 10 people received a sham treatment: the level of stimulation they received was not high enough to stimulate the nerve cells. Both groups also received the conventional treatment of computer and pen-and-paper training.

Both groups were given tests to measure their ability to process information on the neglected side of the body at the end of the treatment and again two weeks later. Those who received the [magnetic stimulation](#) improved on the tests by 16 percent at the end of treatment and by 22 percent two weeks later. The scores of those who received the sham treatment did not improve.

The study also showed that the overactive circuits had gone back to normal in those who received the stimulation, but not in those who did not.

"This study represents an important step forward in the effort to find ways to help people rehabilitate from hemispatial neglect after [stroke](#)," said Heidi M. Schambra, MD, of Columbia University Medical Center, who wrote an editorial on the study. "Beyond its direct effect on people's visual-spatial abilities, hemispatial neglect also interferes with people's efforts to recover their cognitive abilities and movement."

Provided by American Academy of Neurology

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