

# Study finds mobiles excite brain cells

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We know cell phones affect the brain. But the question of whether the electromagnetic fields emitted by mobile handsets that excite brain cells actually do any harm remains unanswered, however, by researchers in Italy.

According to the study led by Paolo Rossini of the Fatebenefratelli hospital in Milan published in the Annals of Neurology this week, prolonged exposure to electronic waves emitted by cell phones causes brain cells to become active. The study, entitled "mobile phone emissions and human brain excitability," exposed 15 young male volunteers to electromagnetic field signals from a GSM 900 cell phone for 45 minutes. Researchers then measured motions in the brain cortex by using transcranial magnetic stimulation to check on the brain before and immediately after exposure, as well as one hour after the exposure. The cortex is the outside layer of the brain.

In 12 of the 15 volunteers, there was an excitability change in the motor cortex that found itself next to the phone. But while the authors stated that "intracortical excitability was significantly modified, short intracortical inhibition was reduced and facilitation enhanced" -- they pointed out that the effects of the exposure on the brain were transient. Indeed, one hour after the exposure, all subjects found their brains return to baseline conditions.

As such, the Rossini study does not conclude whether cell-phone use is actually bad for the brain.

"It should be argued that long-lasting and repeated exposure to EMFs linked with intense use of cellular phones in daily life might be harmful or beneficial in brain-diseased subjects," the study said, adding that "further studies are needed to better circumstantiate these conditions and to provide safe rules for the use of this increasingly more widespread device."

Still, whatever the longer-term consequences of cell-phone use, the study's findings should be food for thought for the estimated 2 billion people in the world who use cell phones. Moreover, there is concern that people who have a propensity to brain-cell excitability, such as those with epilepsy, could be more vulnerable to prolonged use of mobile phones than others.

Of course, the latest study is only one of the many that have examined the subject of brain health and use of mobile phones. Earlier this year the Dutch government backed up a study that found that there was no harm in radiation emitted from handsets, while Japanese telecom operators released a report that found no evidence of cells or DNA being adversely affected by the microwave communication used by cell phones. Other studies, however, such as one released by a group of Swedish scientists, have found that prolonged use of mobile phones

could increase the possibility of developing brain tumors.

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