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Abstract

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J Cereb Blood Flow Metab. 2006 Jul;26(7):885-90. Epub 2006 Feb 22.

Mobile phone affects cerebral blood flow in humans.

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Source

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Abstract

Mobile phones create a radio-frequency electromagnetic field (EMF) around them when in use, the effects of which on brain physiology in humans are not well known. We studied the effects of a commercial mobile phone on regional cerebral blood flow (rCBF) in healthy humans using positron emission tomography (PET) imaging. Positron emission tomography data was acquired using a double-blind, counterbalanced study design with 12 male subjects performing a computer-controlled verbal working memory task (letter 1-back). Explorative and objective voxel-based statistical analysis revealed that a mobile phone in operation induces a local decrease in rCBF beneath the antenna in the inferior temporal cortex and an increase more distantly in the prefrontal cortex. Our results provide the first evidence, suggesting that the EMF emitted by a commercial mobile phone affects rCBF in humans. These results are consistent with the postulation that EMF induces changes in neuronal activity.

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[MeSH Terms](#)

MeSH Terms

Adult

[Brain/blood supply*](#)

[Brain/radiation effects*](#)

[Brain/radionuclide imaging](#)

[Cellular Phone*](#)

Cerebrovascular Circulation/radiation effects*

Double-Blind Method

Electromagnetic Fields/adverse effects*

Humans

Male

Memory, Short-Term/radiation effects

Neurons/metabolism

Neurons/radiation effects

Positron-Emission Tomography/methods

Reaction Time/radiation effects

Reference Values

Sensitivity and Specificity

[LinkOut - more resources](#)

Full Text Sources

Nature Publishing Group

EBSCO

ProQuest

Other Literature Sources

COS Scholar Universe

Labome Researcher Resource - ExactAntigen/Labome

Medical

Electromagnetic Fields - MedlinePlus Health Information

