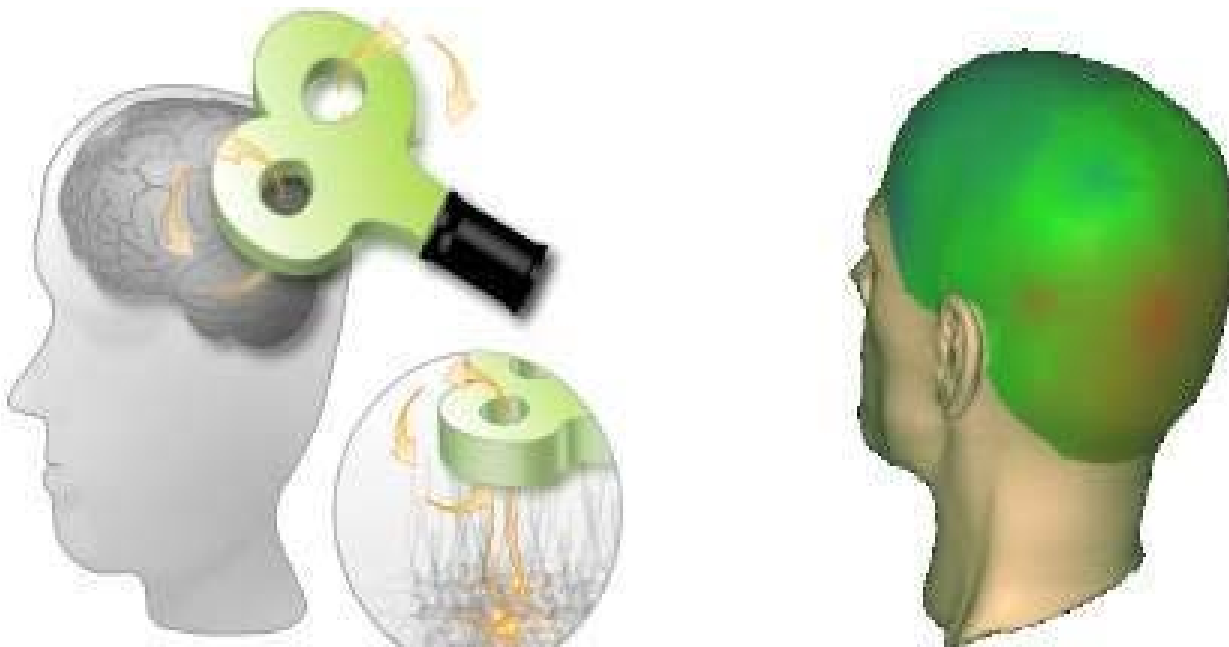


## Transcranial magnetic stimulation



### TRANSCRANIAL MAGNETIC STIMULATION

Tinnitus, migraine, epilepsy, depression, schizophrenia, Alzheimer's disease: it is all neurological diseases, which treatment is increasingly carried out by magnetic brain stimulation. However, the mechanisms of action are still not fully understood.

The inductor generates a short duration (approximately 300 microseconds) magnetic field which induces electric currents in the brain cortex and activates the signaling system. This allows stimulate or suppress certain parts of the brain that can be seen with the help of functional magnetic resonance terminal.

The working group, headed by MD Dirk Janke from the Institut für Neuroinformatik, was the first to illustrate the effects of neural imaging techniques with high resolution.

#### Painless treatment

Transcranial magnetic stimulation (TMS) - a painless, non-invasive brain stimulation when electromagnetic coils are placed on top of the head. This method is used to activate or inhibit certain areas of the brain. Although the number of medical conditions is increasing, the precise biological action of signaling systems is not fully understood. This is because used fMRI (functional magnetic resonance imaging) has the desired temporal resolution necessary to record neuronal activity (in milliseconds). Faster measurement methods, such as EEG or MEG, create considerable noise, distorting the required information.

Light has helped to avoid the problem of artifacts that occur due to the magnetic fields, communication system has been mapped associative neural pathways.

#### The chances for patients

The method can be used for the reorganization of neuronal circuits in signaling systems. For example, the combination of visual therapy and TMS increases contrast perception in patients with amblyopia-acquired disorders of vision.

For the comfortable stay of the patient in a hospital facility, the WestMedGroup offers a choice of couches and beds from the modern eco-friendly materials, as well as a reliable monitoring system and signaling system.

<http://www.sciencedaily.com/releases/2014/09/140905123108.htm>