Changes in cortical excitability and connectivity induced by transcranial magnetic stimulation.

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In the last two decades, two powerful tools for investigating brain mechanisms of cognition have emerged: functional neuroimaging and transcranial magnetic stimulation (TMS), the former capable of measuring and the latter of changing activity in the human brain. In this talk, I shall provide a brief overview of current trends in combining neuroimaging and TMS and the potential of this approach in studying brain plasticity. I will briefly explain the principles of TMS and the use of frameless stereotaxy for planning, monitoring and documenting the location of the TMS coil relative to the subject's brain. I will then move on to describe two sets of studies of TMS-induced changes in cortical excitability and connectivity in the motor system, one based on the combination of TMS with positron emission tomography, and another on the combination of TMS with electroencephalography.

References

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