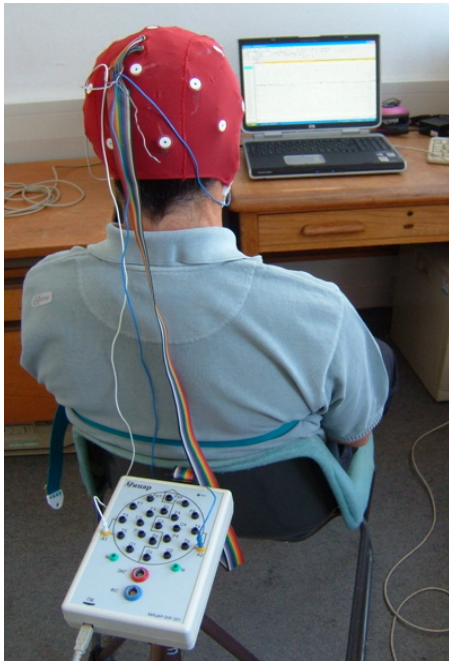


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## QUANTITATIVE Electroencephalogram (QEEG)

### Biofeedback and Neurofeedback

*Biofeedback* can bring unconscious physiological body processes into awareness, such as breathing rate, skin temperature, skin conductance, heart rate, measured by appropriate equipment. The brain is an electrical organ which is actually responsible for all our activities, conditions and states (awake, sleep, think, relax, time of day etc.). In *neurofeedback* the brain waves are derived by electroencephalography (EEG). At the same time the person modulates his or her brain activity aided by a computer, thus gaining control of certain brain waves.

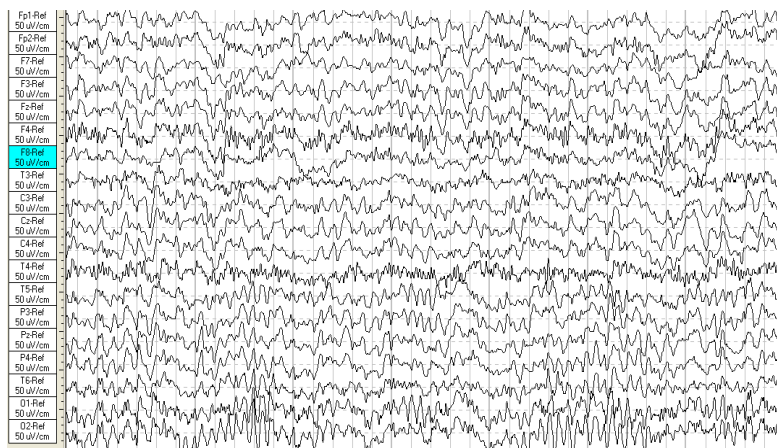


### More precise diagnosis using QEEG

*Quantitative electroencephalography* (QEEG) analysis is a complex process that brings the activities of the whole brain, measured with 19 electrodes, onto a computer. Distributed all over the head the different sensors are measuring electrical activity of brain waves, which contain considerable information. Innovative medical hard- and software, allow accurate quantification of these statements about the brains activity. The comparison with an external standard database (5 to 85 years) shows any deviation from the "standard brain" and helps to draw conclusions. Because symptoms and difficulties are reflected in the brain, the constellation of neuro-biological function deficits can be determined objectively and pathogenic differences can be made visible. These "biomarkers" eliminate confusion by allowing a more accurate diagnosis. Thus, they are a great help for a more targeted drug therapy and/or alternative therapies such as neurofeedback.

### Studies and QEEG

Under the auspices of the Brain Trauma Foundation Grisons the first international study "ADHD in adults", our team this method just used. The aim of our research is to help adults with ADHD to find a more precise neurophysiological model (phenotype) and more efficacious interventions.



### Conclusion

At different diagnoses and problems such as **whiplash, stroke, ADHD, autism** etc. a QEEG can reveal detailed information about the activities of the brain and the communication among the various regions of the brain. The conclusions about function or dysfunction of the brain allow a more targeted and faster therapy. This quantification and analysis of the QEEG allow us to say where and which therapy is probably the best working.