OPERATION INSTRUCTIONS AT AALTO TMS LABORATORY

These operation instructions are meant to ensure that appropriate ethical requirements are followed, and to ensure the safety of participants in all studies performed at Aalto TMS laboratory.

PREREQUISITIES OF RESEARCH IN SHORT:

1. Favourable statement from an ethical committee
2. Research permission to Aalto TMS laboratory
3. User and safety course

STATEMENT FROM THE ETHNICAL COMMITTEE

In order to perform research in Aalto TMS laboratory, favorable statement from ethical committee is required. Statement can be obtained from HUS - The Hospital District of Helsinki and Uusimaa or some other ethical committee operating in Finland (g.e. http://www.hus.fi/ - Tutkimus ja opetus - Eettiset toimikunnat). When performing non-medical research, researchers in Aalto University can apply statement from Aalto University's committee of ethical research. Researchers themselves are always responsible for ensuring that ethical permission is obtained.

RESEARCH PERMISSION AT AALTO TMS LABORAOTRY

A research permission approved by Aalto Neuroimaging Infrastructure is required before experiments can begin. This form can be found on the website of the Aalto TMS lab. Research permission must contain information about the parameters used in research. Parameters are not allowed to exceed national guidelines of TMS and rTMS studies descriped in Rossi et al, 2009. The Researcher in charge of the project is responsible for ensuring that safety instructions are followed, and that the research is in accordance with the ethical permission. All personnel participating in research must be adequately informed about safety issues. A statement from the appropriate ethical committee needs to be obtained before applying for a research permission.

USER TRAINING

All personnel performing research in Aalto TMS laboratory must attend user training and safety course which provides information about safety aspects of TMS as well as hands-on training with the equipment. For information about the course and course schedules please contact the laboratory's laboratory engineer.

RESPONSIBILITY ISSUES

The Researchers conducting measurements in Aalto TMS laboratory are responsible for participant safety and for ensuring that appropriate ethical and research permissions are in place. Personnel must familiarize themselves with TMS laboratory's safety and operations instructions and must attend Aalto TMS laboratory user training. There is an insurance in place for research performed by Aalto University's researchers for non-medical research. In other cases, members of the research group are responsible for having the appropriate insurance acquired either from the head organization or via research group. Information about subject insurance must be attached to the research permission application.

MEASUREMENT RECORD

Every measurement must be recorded in the measurement log book. The record contains following information: date, research code of the project, used equipment (coils, EEG, respiratory effort sensor, etc.), and used stimulation parameters. It is advisable to also record any technical problems encountered during the measurement session. The Researcher in charge is responsible for providing measurement records.

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ARCHIVING AND REMOVAL OF DATA

Research groups are responsible for the archiving of data. Aalto TMS laboratory cannot offer backup or archiving services. Laboratory's computers are cleaned automatically without further notice 2 weeks after data acquisition. Users are responsible for copying their data after measurement sessions.

PUBLICATION POLICY

Scientific publications containing data collected in Aalto TMS laboratory must have Aalto TMS laboratory's address (Aalto TMS lab, Aalto Neuroimaging, Aalto University, FI-00076 AALTO, Espoo, Finland) as an affiliation. Usually this is done so that at least one of the writers has the above affiliation.

TECHNICAL PROBLEMS

If TMS, EEG or other laboratory equipment does not work properly, Aalto TMS laboratory's laboratory engineer must be notified. Please also provide a short description about the malfunction, used equipment and your contact information in the lab's Service Book.

AALTO TMS LABORATORY'S RESERVATION AND COMPUTER SYSTEMS

Aalto TMS laboratory has reservation system which can be reached via Aalto TMS lab's web page (http://tms.aalto.fi). Username to reservation systems is given with the approved research permission to researchers mentioned in research permission. Usernames are personal. Reservations can be cancelled through reservation system 24 hours advance. In case that you or your test subject cannot make the reserved appointment, please remember to cancel reservations as soon as possible. Reservations that are not cancelled 24 hours before scheduled session are charged normal rates.

SAFETY SCREENING OF TEST SUBJECTS

Before any measurements can be done in Aalto TMS laboratory, test subjects must pass Aalto TMS laboratory's safety screening. Researcher in charge must go through the safety screening verbally with the test subject. Contraindications of research are mentioned in Aalto TMS Laboratory's safety screening form. Researchers must monitor test subjects' well being during the entire measurement. The safety screening form can be found on the Aalto TMS lab website.

HEARING PROTECTION

All researchers and test subjects are obligated to use hearing protection during TMS-experiments.

IN CASE OF A EMERGENCY

In case of emergency or in need of resuscitation staff will immediately start the first aid and call **112**.

REFERENCES

Rossi Simone, Mark Hallet, Paolo M. Rossini, Alvaro Pascual-Leone and The Safety of TMS Consensus Group, 2009. *Safety, ethical considerations, and application guidelines for the use of transcranial magnetic stimulation in clinical practice and research. Clinical Neurophysiology 120, 2008-2039.*