

# Module: MEG safety



# General rules

Following standard operating procedures, there are no additional safety concerns doing MEG.

## **Rules:**

- Always be two in lab
- Respect MEG procedures
- Be aware

Participant safety

# Participant Safety

## **In case alarm goes off (fire, oxygen, etc.)**

- Talk to and calm participant
- Get participant out of MSR
- Evacuate



# Participant Safety

## **In case participant gets ill (seizures, panic-attacks, etc.)**

- Talk to participant
  - Calm down participant, ask what's wrong
- Get in MSR
- Get participant out
- Call 112

# Participant Safety

## **Good practice**

- Be aware who your participants are (patients, healthy, ... )
- Tell about procedure and equipment before the experiment
  - MSR and doors
- Alarm ball
- Always talk to participant while he/she is in MSR

# Equipment safety



# Equipment safety

- **No metallic objects inside the MSR**
  - Phone, wristwatch, jewelry (rings, necklaces, earrings, etc.), wallets, coins, access cards, belts, etc.
- This applies to you and your participants!
- Operate equipment with skill and respect. Following standard operating procedures, there are no additional safety concerns are doing MEG.





# Equipment safety

In case anything happens (equipment failure, etc.):

- Test equipment is connected and turned on.
  - Do not switch, change or unplug equipment unless you know what you are doing.
- Reset/restart
- Call for assistance (phone numbers are on the wall above phone)



# MEG MEASUREMENTS

## MAIN PROCESS

## SUB PROCESSES

### 1.0 PREPARING EQUIPMENT

### 2.0 PREPARING SUBJECTS

### 3.0 PREPARING MEASUREMENTS

### 4.0 DOING MEASUREMENTS

### 5.0 AFTER MEASUREMENTS

## ACTIVITIES

1.1 Check or adjust MEG gantry position

1.2 Verify safe gantry position

1.3 Connect and switch on stimulus equipment

1.4 Verify that stimulation settings and intensities are correct

1.5 Check MEG sensors, heat if needed.

1.6 Check experiment triggers

1.7 Create or check project and acquisition settings.

1.8 Make empty room recording

2.1 Welcome subject

2.2 Inform subject about the experiment

2.3 Collect & sign written consent

2.4 Subject changes clothes

2.5 Add subject to database

2.6 Attach electrodes and check electrode impedance

2.7 Attach HPI coils

2.8 Digitize HPI coils and head shape. Save preparation.

2.9 Instruct subject

2.10 Give subject safety instructions

3.1 Create / or load project and acquisition settings. Load preparation.

3.2 Seat subject comfortably and in optimal position inside MEG helmet

3.3 Connect electrodes and HPIs

3.4 Check subject comfort

3.5 Check bubble, 2-way communication & camera

3.6 Check HPI measurements

3.7 Check MEG sensors, heat if needed

3.8 Check MEG, EOG, ECG MISC, TTL, buttons, etc

3.9 Check for artefacts

3.10 Make sure subject's head is in best position for recordings

4.1 Begin recordings

4.2 Initiate stimulus procedure / protocol

4.3 Make lab notes

4.4 Monitor subject comfort

4.5 Monitor and assess subject sleepiness

4.6 Monitor signal integrity

4.7 Monitor stimulus procedure / protocol progress

4.8 Save data with your initials

4.9 Complete lab notes

5.1 Move subject out of MEG helmet

5.2 Detach electrodes + HPI

5.3 Debrief subject

5.4 Subject changes back clothes

5.5 Thanks and goodbye to subject

5.6 Clean HPIs

5.7 Clean up MEG and MSR

5.8 Clean up MEG lab

5.9 Clean up changing room

5.10 Organize and upload your data, from DACQ and other

5.11 MaxFilter MEG data and upload filtered data, if applicable.

5.11 Delete your uploaded data