MEG (with EEG) usage during COVID-19 Pandemic

Single Operator, or dual usage (with Shadower) when acquiring data with Colleagues, and eventually outside Participants.

- All parties to wash hands and use 70% alcohol hand sanitising gel before entering Lab.
- Operator, Participant, and Shadower (if present), to wear face covering always.
- When acquiring, Operator to wear disposable apron, gloves, face covering and visor when attaching CHPI coils, attaching EEG cap, performing Polhemus digitisation, positioning Participant into Gantry chair. Visor can then be removed, and reapplied if Operator needs to renter MSR.
- Designated areas of Control Room to be adhered to by Operator and Participant. Shadower (if present) to keep to Operator area (keeping 2m SD).
- Operator, Shadower (if present) and Participant to keep to designated chairs.
- All non-essential items - coats, bags - to be left at home or left in Offices (if open for access), to reduce possible infection/contamination of surfaces and increasing cleaning time.

1) Participant contacted by CHBH Manager or Ops Admin **24hrs before** and verbally screened using MEG COVID-19 Screening Questionnaire to confirm symptom free.
   - When initially recruiting Participants, Operator to check Participant is symptom free using MEG COVID-19 Screening Questionnaire, and to inform Participant they will be contacted 24hrs before by CHBH Ops Manager or Administrator to verbally confirm Participant is still symptom free. Operator to then inform CHBH Ops Comm. of Participant name/contact details.
   - Researcher must follow the CHBH process for bringing participants into the Centre, obtaining the correct approval and providing the participant with a copy of the CHBH Covid-Secure Building Induction prior to attending.

2) MEG Support to clean, power up, check relevant equipment, move gantry from liquefaction, put disposable covers on button boxes. Replaces cleaned EEG cap (if dry) back into its box. To wipe down keyboards/mice etc., to leave Lab once completed, cleaning hands with Anti-Bac, washing hands as soon as possible.

3) Operator arrives, informs Caroline they are in MEG Lab. Washes hands. Puts on face covering, visor, apron, and gloves. Valuables/metal items placed in red plastic basket. Wipes keyboards/mice. Checks stimulus triggers/paradigm turns on DACQ monitor, logs into DACQ, adjusts gantry position as necessary, checks response equipment, sets up Projector, Eyelink, EEG Trolley (with tape, gel-filled syringes, small/large electrode sticky rings etc.) checks that EEG caps are clean-sanitized and available.

4) Operator takes relevant Screening/Consent forms from usual trays, and places them at end of desk by the Polhemus (near black paper tray).

5) Participant arrives at CHBH, waiting outside if Reception area already occupied, following any displayed procedures regarding Reception area usage.

6) Caroline informs Operator that Participant has arrived.

7) In Reception area, Operator asks Participant to confirm they are still COVID-19 symptom-free.
   - **Successful confirmation** - Participant is allowed entry into CHBH and asked to immediately wash hands or use hand gel.
   - **Unsuccessful confirmation** – Participant is politely asked to leave CHBH and advised about possible rescheduling after 14 days.

8) Operator asks Participant if they need to use the facilities.
   - Participant follows relevant procedures for using facilities.
   - Participant to use 70% alcohol hand sanitising gel in MEG corridor.

9) Operator and Participant enter MEG corridor. Participant sits in designated chair in corridor, if Operator needs to make any final checks to finish getting Lab ready. Participant is provided with a face covering. Otherwise...
10) Operator and Participant enter Lab, keeping to designated areas, sit in designated chairs.Participant provided with a face covering (if not done so already). Participant takes biro from box, fills in/signs Screening/Consent forms, place forms in black plastic tray with details visible to aid information input by Operator.

11) Participant changes into scrubs in Changing Room, choosing correct scrub size canvas bag from labelled wardrobe shelves. Participant clothes to be left on table, shoes on floor. Valuables in red plastic basket.

12) Whilst Participant is changing, Operator moves black plastic tray, without touching forms, to enter details into Participant Logging Computer, then into DACQ Console. (Participant to turn form/s over in tray if required).

13) Once changed, Participant sits in designated chair. Operator explains task again, asks if Participant has de-

14) Operator checks Participant with metal detector (keeping to minimum time as will be within SD, but to perform adequate check), attaches cHPI coils (Note: we may be asking Participant to attach some cHPI coils themselves, although it’s been shown Operators can attach the coils correctly in the allotted time - < 5min), and attaches an EEG cap and associated electrodes (if required for their Acquisition) using the following procedure.

a) EEG Caps will be checked as having been cleaned/sanitised from previous session (if used) by either checking MEG Maintenance Log for cap size previously used and therefore cleaned and been replaced back into its box, or by removing the cap from Polystyrene Head (see Cleaning protocol).

b) The EEG trolley will be set up prior to Participant arrival. Syringes will be pre-filled with gel using caulking gun, blunt needles will be attached (with covers left in place), Micropore tape cut to required lengths ready for use, sticky discs for reusable electrodes ready for use. Yellow tape measure laid out fresh Green paper towel, along with disposable and reusable electrodes.

c) The Operator, wearing face mask, visor, gloves, and apron, and with the Participant wearing a face mask, will attach disposable electrodes (or reusable electrodes with conductive paste and Micropore tape) for EOG, ECG, GND and REF as per the figure below.

![Diagram of EEG electrode setup]

15) Operator performs chPI check/digitisation, EEG digitisation (task to be undertaken in minimum time - as will be within SD of Participant - but without compromising data quality), provides MR-safe glasses (if required – for now use Participants with 20/20 vision if at all possible to minimise cleaning). Operator opens MSR, Participant shown to gantry chair. Electrodes plugged in, EEG cap connectors plugged in, EyeLink set up.

f) **NOTE:** Participants will **NOT** be able to wash their hair before they leave. Gel should simply be wiped from the hair as much as possible with green paper towel and then disposed of.
16) Operator re-confirms task understood by Participant, informs them that they need to place face covering in lap once Operator has left, closes MSR door.

17) Operator checks Participant camera/intercom, checks Participant ready, performs chPI check/EEG cap impedance check, starts Acquisition (if all OK), starts Experiment.

18) During any relevant breaks in trials, Operator asks if Participant needs to take a break/would like a drink of water.
   o (May need to have asked Participants to bring in their own water bottle/drink).
   o If Participant needs a break/would like a drink, Operator asks Participant to pull mask back up, Operator opens MSR, hands bottle of water/drink, using alcohol wipe, to Participant. Operator moves away to SD. Participant moves face covering down to take a drink, then pulls mask back up.
   o Once finished, Operator takes back bottle using alcohol wipe. Places bottle on green paper towel on floor of MSR or on Control Room desk. Operator leaves, MSR door closed. Participant places mask back into lap. Acquisition continues.

19) When finished, Operator informs Participant Acquisition is complete, to put mask back on, and to wait to be unplugged. Data saved.

20) Operator opens MSR, unplugs Participant, removes chPI coils, EEG cap, and any reusable/disposable electrodes. Participant given paper towel to remove gel from hair. Participant changes back into clothes, puts used scrubs back into canvas bag. Participant thanked for their time, asked to pick up used scrubs/canvas bag and to pick up forms from black plastic tray. Participant escorted out of MEG corridor and asked to put used scrubs/canvas bag directly into washing machine and to place forms in Reception Post Box.
   a) If washing machine is in use, Participant hands bag back to Operator to place in the “Dirty Laundry” box (found under table in Changing Room). MEG Support, or next Operator, wearing gloves, face covering, apron, to put bag into washing machine at next available opportunity.
   b) When scrubs are dry MEG Support, or next Operator, after washing hands/using sanitiser to put scrubs back into bag and place back into wardrobe, wearing an apron to avoid clean laundry contacting their clothing (to avoid cross-contamination).

21) Participant places forms in Reception Post Box (watched/checked by Operator). When in CHBH lobby, Participant reminded to dispose of face covering in provided waste bin and to wash hands before leaving CHBH.

22) Operator returns to Lab, logs out of megacq. Logs into RDS, copies data.

23) Operator to clean all areas/equipment they have touched, following Cleaning Protocol, paying attention to EEG cap cleaning.

24) Upon leaving (and locking if required) Lab, Operator cleans hands with Anti-Bac from hand dispenser and then washes hands once out of MEG corridor.