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# Overview

The mock scanner is used as a training tool for research participants to become acclimated and learn to stay still during MRI scanning.

Due to COVID-19 changes to the Center for Brain Sciences-Neuroimaging facility, it has been relocated to Room 269 in the Northwest, near the east wing on the building’s second floor. This SOP assumes the location of the mock scanner is Room 269.

This SOP addresses how to interact with the participant, equipment, and physical space in a way that minimizes the potential for COVID-19 transmission. The procedures were developed within the framework of the Harvard University Research Laboratory Re-Entry Plan as well as the CDC’s Reopening Guidance for Cleaning and Disinfecting.

# Physical distancing and transit pathways

# Modified mock scanning procedures aim to maximize separation between participants and experimenters, while maintaining the validity of the mock scan experience itself. We also aim to minimize contact between individuals while traveling to and from Room 269 Northwest.

Modified interactions with mock scanner.

Participants will be contacted via phone or text and met at the main NW building entrance and will be issued an appropriate mask, which will be in place before entering the building, and the study team member will check the participant’s temperature using a no contact IR thermometer. The experimenter will give participant (and guardians, if relevant) a Harvard-issued surgical mask to don for the entirety of their time in the Northwest building. If the participant’s temperature is 100.4 ℉ or above, or they are unwilling to wear a mask, we will not proceed.

Once these steps are completed, they will enter the building and take the stairs (preferred) or either set of elevators up to the second floor (if elevator they will take individually, exit and wait for the experimenter who will immediately follow in a second elevator). The participant will wash their hands with soap and water for at least 20 seconds at the kitchenette immediately outside of Room 269 Northwest before being escorted into Room 269.

Overall modified interactions with participant and mock scanner.

The mock scanner is a large, tube-shaped apparatus that has a similar look and feel to the MRI scanner. Participants lie on the mock scan bed and are pushed into the apparatus for several minutes, while they hear the sounds of the MRI, practice MRI tasks, and/or receive training on maintaining head stillness.

Procedures have been modified to reduce the overall number of items that participants will make contact with during their mock scanning session. This includes discontinuing the use of an under-knee pillow and additional head padding. The use of linens will also be discontinued (instead, participants will lie on single-use paper similar to that used in a doctor’s office).

The physical space has been modified to allow more greater distancing between participant and experimenter. There is a control station with a laptop and iPod to control visual and auditory input during the mock scan, and to monitor head motion. The distance between this control station and the mock scanner has been increased so that it is >6 feet distance from the mock scanner itself. In addition, experiments should use strategies that minimize the amount of close contact time between the participant and the experimenter, which should only be required when placing the head coil over the participant’s head or removing it, and standing at the participant’s feet when moving the bed in and out of the bore. These procedures will be detailed in the procedure SOP for mock scanning. The total time required within 6 feet should therefore be less than 2 minutes in total, and usually can be accomplished in less than 1 minute in total.

Room size, airflow and temporal separation between uses.

Room 269 Northwest is 296 square feet in size, with a CFM value of 266 and 10 air changes per hour. This size and airflow is sufficient for two individuals (one participant, one researcher) to be physically present in the space, according to recent guidance. Due to the high number of air changes per hour, research teams should leave the room empty for *one hour* between uses. This will be accomplished within the room’s booking calendar by user groups booking a one-hour ‘Empty Room’ time after each session.

Parents or guardians accompanying minor participants will be asked to sit outside Rm 269 for the duration of the mock scan session.

If participants need to use a restroom, they will be guided to the restrooms on the second floor of the Northwest Building (near the main elevator bank).

Cleaning and PPE.

Frequent hand washing is a requirement. Participants and researchers will wash their hands before entry at the kitchenette immediately outside of Room 269. There are paper towels at the sink, which are available to serve as a barrier for contact with the sink faucet handles and the door to Room 269. The door can also be propped open to mitigate door handle contamination.

**Masks.** All researchers and participants will wear Harvard-issued Type II 3-ply surgical face masks at all times.

**Disposable gowns and gloves**. During cleaning and disinfecting of equipment and surfaces and the handling of trash, researchers will wear disposable gowns to protect their clothing as well as latex or equivalent non-allergenic disposable gloves.

**Keyboard covering.** The mock scan control laptop keyboard and mouse will be protected with disposable covers (fitted saran-wrap like coverings used in the dental hygiene field to mitigate spread of infection or saran wrap).

A single experimenter will carry out the mock scanning protocol. To avoid risk of exposure, the experimenter will wear a **face shield** in addition to the Harvard-issued Type II 3-ply surgical mask, as well as latex or equivalent non-allergenic **disposable** **gloves**. The gloves will be disposed on exit from the room and hands disinfected with hand sanitizer. The face shield will be reused by the researcher for that day cleaned fully on the outside with disinfectant wipes between uses.

Once the study is complete, the same researcher enters the mock scan room again for cleaning.

**Covering of peripheral equipment.** During mock scanning, the mock scan response keys and head accelerometer chip will be covered with saran wrap which will be thrown away during post-scan cleaning. For headphones, plastic headphone covers will be used. The plastic mat on the mock scan bed and the head pillow will be covered with doctor’s paper. All of the equipment just described should also be wiped with disinfectant.

Disinfecting procedures to be carried out before and after each participant.

To anticipate human error, redundant cleaning of all equipment will occur, before and after each session. CDC-approved Clorox and Lysol disinfectant wipes will be available in the mock scan room. A plastic Swiffer arm and large-size wipes will be available for cleaning the inner walls of the mock scanner bore. Experimenters will wear the provided latex or vinyl gloves and a disposable gown while cleaning and disinfecting and when handling trash.

On entry into the mock scan room each group will disinfect (a) the inner and outer doorknob for Rm 269, (b) the mock scanner bore, table, peripheral equipment, and head coil, and (c) work surfaces including keyboards and mouse. Experimenters will be trained on proper linear top to bottom MRI bore disinfecting protocol (based on American College of Radiology guidelines).

The head pillow and padding are made with washable materials and will be covered in doctors paper. After each participant, the experimenter will remove the paper and disinfect the pillows and padding with wipes.

Following cleaning, gloves and gown will be removed carefully to avoid contamination of the wearer and surrounding area and disposed in designated trash bins. Immediately after removal, the experimenter will wash their hands with soap and water at the kitchenette immediately outside of Room 269.

There will be a trash bins in Room 269 for disposal of wipes, paper towels, Kimwipes, gloves and gowns. Trash bins will be put out into the hallway at the end of the day for removal by the custodians.

Adherence

This SOP document will be distributed to and reviewed by all researchers accessing the mock scanning room core. Failure to adhere to the guidelines provided in the SOP will result in the immediate suspension of access to the neuroimaging core facilities and mock scanner facilities.

Emergency Shutdown Procedure

If an individual user of the mock scan room should test positive for COVID-19, they will immediately contact Harvard University Health Services (HUHS) who will determine further actions to be taken.