

Safe Reopening Plan: GMU 3T MRI Lab Procedures During SARS-CoV-2 (COVID-19) November 4, 2020

Note: *These procedures may be updated after pilot testing and feedback from stakeholders.*

Submitted by: Jim Thompson, PhD, MRI Scientific Director

Beginning November 9, 2020, and aligned with Mason's *Safe Return to Campus Plan*, the 3T MRI Lab will reopen for research participant scanning. In compliance with the established guidelines from the University for reopening for on-site work, we submit the 3T MRI Facility Safe Return Plan. All faculty, staff, students, and visitors must comply with these guidelines to assure physical distancing, and compliance with University endorsed public health practices.

The procedures below are specific to the GMU 3T MRI Lab. No Principal Investigator (PI) or research team member may begin university research outside the home until they have received proper authorization. Each PI should: 1.) review the Research Continuity and Safety Plan for Human Subjects Research Considerations (<https://www2.gmu.edu/safe-return-campus/research-continuity-guidelines>), and MRI Lab COVID-19 procedure, 2.) work closely with their Associate Dean or Director for Research to complete and submit a [*Request to Resume Research in University Facilities or in Field or Clinical Settings*](#), and 3.) obtain approval from the Department Chair/Center Director, Associate Dean or Director for Research, Environmental Health & Safety, and Dean.

MRI researcher setup may resume in stage 4. On-site activity is limited to one researcher and MRI technologist or MRI Scientific Director being on site at any given time.

MRI research participant scanning will resume in stage 5

Overall Principles:

- Prescreen participants and researchers before and after arrival at the MRI Lab to prevent possible COVID-19 positive or exposed individuals from entering the Population Health Center (PHC).
- Maintain detailed logs of all individuals in the lab for potential contact tracing.
- Limit the number of people and interactions in the lab and practice physical distancing when possible.
- Implement decontamination procedures for MRI Lab.
- All researchers and research participants wear appropriate Personal Protective Equipment (PPE) when possible.
- All researchers must be trained in the following procedures, including participant interactions, appropriate handling of PPE, and cleaning of equipment.

Basis for Procedures:

The principles and procedures in this plan are in line with the consensus developing in the MRI research community about how to best conduct MRI research during the pandemic, as well as

recommendations from the [American College of Radiology](#).

Health Screening:

Research team members and participants entering the PHC and MRI Lab will have to certify that they are not currently experiencing any symptoms of illness; that they have not recently been ill; and that they have not had contact with a known or presumed COVID-19 patient within the last 14 days. Screening procedures described below:

Procedure for Researchers:

1. Researchers complete the GMU electronic health screening (Mason COVID Health Check): (1) 24 hours prior to the scheduled exam; and (2) the morning of the scheduled exam. (<https://healthcheck.gmu.edu>) Once completed, the researcher will forward the received approval e-mails to the MRI technologist.
2. If a researcher answers “YES” to any of the COVID-19 health screening questions, or the e-mail background is not green - he/she may not enter the PHC or MRI Lab.
3. Researchers are required to notify the MRI Technologist if anything on their Health Checklist changes between the time they complete the checklist and their arrival at the lab.

Procedure for Participants:

1. Researchers are responsible for acquiring a completed Health Checklist (via the Health Checklist: **APPENDIX A: MRI Lab COVID-19 Health Checklist for Researchers and Participants**) from their participants either by phone or email as close to their visit to the center as possible. Preferably, within 24-48 hours of their scheduled scan. The researcher must bring that completed health checklist with them to the MRI Lab.
2. Researchers should emphasize to participants *that if they develop any symptoms, or come in contact with a COVID-19 positive person between when the Health Checklist was completed and their arrival at the MRI Lab, **they should not come to the MRI Lab.***
3. On the day of the scheduled exam, once the participant arrives, the researcher or technologist will assist the participant in filling out the GMU electronic health screening form (Mason COVID Health Check) prior to entry into the PHC.

Procedure for GMU MRI Lab Staff:

1. MRI Lab staff will fill out the GMU daily electronic health screening form (Mason COVID Health Check) and report their health status as per the safe return to campus requirements.

Limiting Interaction:

- Whenever possible at least 6 feet of separation should be maintained.
- The number of people at the MRI Lab in the same room or Zone is limited to the minimum number of researchers required to perform the scan. This is comprised of 3 people: MRI Technologist, one researcher, & participant.
- When minors are scanned an accompanying guardian is permitted.

- Scans will be spaced at least 90 min apart to allow time for disinfecting of the MRI Lab.
- No back-to-back scans are permitted at this time. (Even from the same research group.)
- Only one research group should be at the MRI Suite at a time. There should be no interaction of different research groups.
- Participants must be escorted to and from the MRI Suite at all times.
- Unscheduled visits to the center by research personnel is prohibited. If it is necessary to come to the center for a reason not related to a scheduled scan (e.g. retrieve a left item, testing), researchers should call or email the MRI Technologist on duty to schedule when the visit can occur to avoid interacting with other groups.
- Entrance for researchers and participants into the PHC and the MRI Lab will be via the front entrance on the first floor of the PHC (marked as ENTER).
- Exit from the PHC for researchers and participants will be via the rear entrance of the first floor of the PHC, door adjacent to Room 1919 (MRI Equipment Room) (marked as EXIT).
- All usage of rooms must be scheduled in advance through the MRI Technologist on the current MRI Lab Schedule in Outlook (Calpendo Self- Scheduling System will be implemented 1QTR 2021) to allow for coordination and spacing.
- No visitors or guests are permitted. Only participants being scanned are allowed in the MRI Lab. (Exceptions regarding studies with minors or participants with special circumstances will be coordinated with the Scientific Director and MRI Technologist.)
- Access to the PHC restroom is limited to capacity per signage posted on the door. All participants will be escorted to the restroom door by a researcher.

Control Room (Zone III):

- The technologist and researcher should remain at least 6 feet apart in Zone III whenever possible. The maximum duration for proximity between the technologist and researcher of less than 6 feet is 15 minutes. If unable to maintain a 6-foot distance, face shield and mask must be worn.
- A choice should be made at the beginning of each scan as to if the researcher or technologist will be using the intercom to communicate with the participant. *Only the technologist or researcher should then use the intercom for the whole session until it is wiped down.*

Personal Protective Equipment (PPE):

- Masks are required at all times by anyone in the MRI Lab (MRI Technologists, researchers, participants, and guardians for minors).
- The exception to the mask policy is when a participant is being scanned. (See procedures below.) This exception is due to:
 - Possible confounding effects of SPO2 and CO2 from increased rebreathing from wearing a mask.
 - Possibility of increased claustrophobia of wearing a mask while being scanned, or differences in participant experience that might impact data, especially in longitudinal studies.

- Face shields are required to be worn by the MRI Technologist and researcher when a 6-foot distance cannot be maintained
- Gloves shall be worn by the MRI Technologist and researchers while interacting with participants in high contact situations (e.g. applying physiological monitoring equipment). Participants will not be required to wear gloves (but they are available to them).
- Eating in the MRI Lab is prohibited. Drinking should be done in isolation where mask can be removed safely.
- Participants must wear their own mask or one provided by the MRI Technologist or researcher. (See procedures.)
- Participants must wear scrubs provided by the MRI Technologist or researcher during scanning.
- Researchers and technologists may wear a lab coat during scanning to protect clothing – however, this is optional.

Information for Participants & Contact Tracing:

- The researcher will provide an information sheet to participants summarizing the procedures at the center before the day of their scan so they know what to expect (**APPENDIX B: Research Participant Information Sheet**).
- A daily sign-in sheet (**APPENDIX C: MRI Lab Daily Contact Log**) will be kept at the MRI Lab where all personnel will sign-in when they arrive and sign-out when they depart.
 - Human subject participants will be signed in by the researcher conducting the scan using the anonymized subject identifier associated with the research study.
 - If a paper log is used, the MRI Technologist will enter the information into a spreadsheet at the end of each day, which can be accessed remotely.
 - All persons present during a scan session will be also be recorded in the scan log book by the MRI Technologist.
 - The participant is assumed to be present during the scan session and will not be identified by name.
 - Name of researcher conducting the scan will be recorded as well as anyone else that is present even temporarily during the session (which should not occur if procedures are followed).
 - The researcher is responsible for maintaining contact information for a participant for the purposes of contact tracing.

Disinfection/Sanitation Procedure:

Procedure for Scanner and Magnet Room (Zone IV) - Performed after each scan.

1. Wait 30 minutes after participant exits Zone IV. Ensure the door is closed for air exchanges.
2. Person cleaning wears gloves, mask, and face shield.
3. Clear and dispose of table paper, ear buds, tape, and any other disposables.
4. Wipe inside of bore with [Swiffer](#) Pad soaked with sanitizer.
5. Wipe down with [Super Sani-Cloths](#) or [Clorox Healthcare Wipes](#) or similar:
 - a. Head-coil - inside and outside.

- b. Mirror and mirror bracket (mirror should be checked to ensure it is clean and clear).
 - c. Head cushion.
 - d. Table padding.
 - e. Panic bulb/tube.
 - f. Response devices.
 - g. Physio transmitters and cables.
6. Ensure the appropriate dwell time of the disinfectant is used per manufacturer recommendations.
 7. If earphones are used - disconnect and disinfect per manufacturer instructions.

Procedure for Screening Room & Waiting Room (Zone II): Performed After Each Scan.

1. Wipe down tables where participants have had contact with disinfecting wipes.
2. Wipe down keyboard and mouse (if used).
3. Wipe down item's participant had contact with (pens, locker keys, etc.).

General Cleaning: End of Day

1. Wipe down all high-touch surfaces (door handles, light switches, lockers, safes, etc.).
2. Mop Zone IV floor.
3. Wipe down Zone III counter and tables.
4. Wipe down keyboards and mice.

Protocol for Pen Disinfection:

1. Ample supply of pens will be provided by the lab.
2. Pens are kept in a "Clean" bin before use and moved to a "Used" bin after use.
3. Used pens are disinfected at the end of each day or when needed and returned to the "Clean" bin.

Study Procedures: Step-by-Step

1. Prior to scheduled study day, participant must be fully informed by researcher about all experimental procedures and provided the *MRI Lab Research Participant Information Sheet* on what to expect during their visit. Any practice or additional tasks/questionnaires to be performed prior to scanning should take place prior to arrival at the MRI Lab. The researcher must administer the MRI Safety Screening Form via phone prior to the arrival of the participant for the testing session. The researcher brings the completed MRI Safety Screening Form and Health Checklist with them the day the participant is scanned.
2. Researcher arrives at least 15 minutes before scheduled arrival time of participant. The researcher will contact the MRI Technologist by phone upon arrival outside the front door at the PHC. The technologist will meet them at the front door with a mask and face shield (if one is needed) and hand sanitizer. The researcher will give the MRI Technologist 2 pieces of paperwork:
 - a. The completed Health Checklist for participant and (if applicable) – participant's parent
 - b. The MRI Safety Screening Form for participant.

The MRI Technologist will check temperature of researcher. If the temperature is above 100.3,

he/she will not be allowed in the building.

3. Researcher proceeds to MRI Lab and:
 - a. Washes hands at sink, puts on face shield, signs in on sign-in log, adheres to pen clean/used protocol.
 - b. Sets up for experiment.
4. Participant calls researcher upon arrival at GMU, and waits in car or outside the front entrance of

Guests of the research participant, unless they are the parent of a minor, must remain outside of the building. Only one parent of a minor and no other guests will be permitted to enter the facility. The parent must have already completed the pre and on-site Health Checklist and wear a face mask when in the PHC and MRI Lab

the PHC until the researcher and MRI Technologist come out to meet them. The researcher or technologist will help the participant fill out the GMU electronic health checklist and take participant's temperature. If temperature is 100.3, the participant is not allowed entry into the building.

5. Prior to meeting participant, the researcher and MRI Technologist puts on gloves, face mask, and face shield, then meets participant at door to PHC:
 - a. If participant is not wearing a mask, one is immediately provided and participant is asked to put it on.
 - b. Participant is asked to use provided hand sanitizer.
 - c. Researcher provides a participant-completed Health Checklist to the technologist to review with the participant.
 - d. Participant's temperature will be checked with non-contact infrared thermometer
 - e. If participant answers "Yes" to any Health Checklist items they are provided with the Virginia Department of Health (VDH) *Information Sheet - What You Need to Know About COVID-19* (**APPENDIX: D**) and sent home immediately.
 - f. If the participant clears the Health Checklist and is wearing their own mask, the MRI Technologist will assess if the mask provides appropriate protection. If there is in any doubt, the participant will be provided with a face mask from the MRI Lab and shown correct mask placement.
6. Researcher escorts participant to Zone II of MRI Lab.
7. Participant is immediately escorted to Zone II and asked to wash their hands in the sink
8. While participant washes their hands or shortly after, researcher signs in participant on sign-in log
9. Pre-scan procedures are completed for the study in Zone II of the MRI Lab. Researchers are requested keep the duration of pre-scan procedures as brief as possible, and any procedures that can be completed either online or in another location should be done so Any instruction on testing procedures or task practice must take place prior to the participant arriving for their scanning session.
10. Safety Screening & Final Pre-Scan Preparation:
 - a. Mask, gloves and face shield for researcher and MRI Technologist should already be on.
 - b. MRI Technologist completes review of MRI Safety Screening Form with participant.
 - c. If the participant is wearing their own mask, the technologist will inspect the mask for MRI Safety.

- d. Participant changes into scrubs in the Zone II.
 - e. Personal items and clothes are put in a provided locker and secured.
 - f. Participant is escorted into Zone IV by technologist:
 - g. Participant sits on MRI table and any further instructions are given and any physio applied that can be before participant lays down
 - h. Before participant lays down, they are asked to remove their mask. Mask is placed in Ziplock bag and placed at the foot of the MRI table.
 - i. Technologist places participant in magnet and exits magnet room
 - j. Technologist removes and disposes of gloves
11. Scan is run. Maximum total scan time is 60 minutes. Maximum testing session time is 90 minutes.
12. Participant is taken out of magnet:
- a. Technologist puts on gloves. (Face shield and mask remain on until researcher and participant have left MRI Lab).
 - b. Once participant is sitting up and comfortable, he/she takes mask out of Ziplock bag and puts mask back on face. (If needed, a new mask can be provided to participant at this time).
 - c. Participant is escorted out of the magnet room and handed off to researcher.
13. Post-scan procedures are completed for the study in Zone II of the MRI Lab. Researchers are requested to keep the duration of post-scan procedures as brief as possible, and any procedures that can be completed either online or in another location should be done so.
14. Wait 30 minutes after participant exits Zone IV with door closed for air exchanges.
15. Technologist goes through post scan cleaning procedure.
16. Participant is escorted out of PHC by researcher using the designated EXIT door.
17. Post session cleaning procedures are completed.

Appendix A: Health Checklist for Researchers and Participants



**MRI Lab
COVID-19 Health Checklist for Researchers and Participants
George Mason University**

You can help prevent the spread of COVID-19 in the MRI Lab by screening yourself and individuals before they enter our facility. All researchers and participants will be screened prior to making a scanning appointment.

- If you or the participant answers “YES” to any of the screening questions, you/he/she is ineligible to be in the MRI Lab at this time. You/your participant may be in need of a medical follow-up.
- If you or the participant answers “NO” to the screening questions, you/he/she may be permitted into the MRI Lab.
- If you/your participant’s health history changes after this screening- but before arrival for appointment, you/he/she should contact researcher and cancel the appointment
- While in the MRI Lab, you and your participant will practice strong infection control strategies:
 - Maintaining a physical distance of 6 feet
 - Wearing a face mask, and face shield (where applicable); avoid touching face with hands; cover coughs and sneezes
 - Washing hands with soap and water and using hand sanitizer

Researcher Name

OR Participant # _____ **Date Screened:** ____/____/____

Male / Female

Expected Scan Date: ____/____/____

YES NO Have you or has anyone in your home had contact within the last 14 days with any person under screening/testing for COVID-19, or with anyone with known or suspected COVID-19?

Do you currently have any of the following symptoms?

YES NO Fever (100.3°F or higher), or a sense of having a fever; Shaking or chills

YES NO New cough that you cannot contribute to another health condition

YES NO New shortness of breath that you cannot contribute to another health condition

YES NO New Congestion or runny nose

YES NO New loss of taste or smell

YES NO New sore throat that you cannot contribute to another health condition

YES NO Unexplained muscle pain

YES NO Nausea, Vomiting, or Diarrhea

YES NO Unexplained fatigue

YES NO Uncommon headaches

Researcher: _____ Date Screened: ____/____/____

Signature

Screening Performed in MRI Lab

(Day of Scheduled Scan): _____ Date: ____/____/____

MRI Technologist

TEMPERATURE: _____

Appendix B: Research Participant Information Sheet



Research Participant Information

Dear Research Participant,

Thank you for your support for this research study. Our goal is to provide you with a positive and safe MRI scanning experience. To ensure your safety and the safety of our researchers and technologist, we are sending you this letter prior to your visit to inform you what to expect when you enter our facility. Please read it carefully. If you have any questions, please contact your researcher before your visit.

Best Regards,
The MRI Lab Staff

What to expect the day of your visit:

1. Please arrive at your designated time (do not come earlier). Please wear a face mask. Once you arrive at the outside front door of the Population Health Center at Peterson Hall – Please call the researcher who set up your study. The researcher or the MRI technologist will greet you there. Please do not bring a guest as they will not be allowed in the MRI Lab. If the research participant is a minor child, only 1 parent and no siblings or others will be allowed to accompany the minor participant in the MRI Lab. NO food or drink is allowed in the MRI Lab at this time. Please dispose of these prior to your arrival.
2. We will greet you at the door with a face mask (if you need one) and hand sanitizer. Your face mask MUST cover your nose and mouth. If it does not, we will not allow you entry into the facility.
3. Prior to you entering the building, we will assist you in filling out George Mason University's electronic COVID-19 health screening questions and scan your forehead with a thermo scan thermometer. ***If your health history has changed in the past 24-48 hours or you have an elevated temperature – do not come in for your scan. If the thermometer indicates you have a temperature (100.3) the day of your scan, you will be sent home.***
4. You will then be escorted to the MRI Lab. .
5. **Information Concerning Contact Tracing:** Research participants must be informed at the beginning of the first screening session that:
 - a. George Mason follows contact tracing requirements from the Commonwealth of Virginia and local health departments and
 - b. Your contact information and screening responses, will be provided by Mason to health authorities if required by applicable laws, regulations, or other public health order. For contact tracing purposes, researchers must maintain a list of all participants who interact with each research team member and the location and time of the appointment. This information must be securely stored separately from research data that is collected.
6. Once inside the MRI Lab, the MRI Technologist will review your MRI Safety Screening Form questions to ensure it is safe for you to be scanned. You will be asked to change into a scrub suit prior to your MRI. ***Please leave personal items at home (e.g. jewelry, bookbags, large purses etc.) as our space is limited and you will not be allowed to take them into the MRI scan room.***

7. Your mask will be inspected to ensure it is safe to wear during the MRI scan. For your comfort, you will be able to remove your mask for the MRI scan if you prefer.
8. After completion of your scan, you may replace your face mask or a fresh face mask will be provided.
9. You will change back into your street clothes and be escorted out of the Population Health Center at Peterson Hall.

Appendix C: MRI Lab Daily Contact Log



MRI Lab Daily Contact Log

Date: ____ / ____ / ____

Researcher Name AND Participant # (separate line) (please print legibly)	Time IN	Time OUT	P.I. Name
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14.			
15.			

Appendix D: Virginia Health Department(VDH) Coronavirus Half Sheet Available in Spanish and English

CORONAVIRUS (COVID-19): WHAT YOU NEED TO KNOW

The coronavirus (COVID-19) is here in our community. It is up to all of us to do our part and stop the spread of COVID-19.



COVID-19 is spread mainly from person-to-person:



- Between people who are in close contact with one another (within about 6 feet).
- Through respiratory droplets produced when an infected person coughs or sneezes.

These droplets can land in the mouths or noses of people who are nearby or possibly be inhaled into the lungs.

Symptoms include:



- Fever
- Cough
- Shortness of breath and difficulty breathing

These symptoms may appear 2-14 days after exposure.
There is no treatment for COVID-19.

To protect yourself from COVID-19:

- Stay home as much as possible and limit visitors in your household (they may have been exposed to the virus and not show symptoms).
- Try to only leave your house to get groceries and essential supplies.
- When you leave your house, wear a cloth mask
- If you feel sick, stay home and isolate yourself from other people in your household. Do not go to work.
- Clean your hands often with soap and water for 20 seconds. If soap and water is not available, use hand sanitizer
- Cover your coughs and sneezes
- Clean and disinfect frequently touched surfaces daily.

The best way to protect yourself and your family from COVID-19 is to stay home and not allow visitors into your home. This includes family that does not live with you.