# **General Guidelines for Scan Acquisition**

# **The following is a general guide for what to do if you are responsible for overseeing the actual MRI scan process. This may or may not be a common occurrence for you. You should consult your PI and/or study documentation for any study-specific scan requirements or needs.**

# **Pre-scan Setup**

* Obtain Participant ID
  + Study coordinator or PI should have this information
* Greet and Prep Participant
  + Greet the participant, escort them to the room next to the scanner room, and briefly describe the scanning procedure
    - Have they had an MRI before? Do they have a history of claustrophobia?
      * It helps to get a general idea of the level of comfort before the scan so that you can provide support as needed
    - Let them know how long the scan will take
  + If your scan has a visual component, ask if the participant can see a computer screen without glasses
    - If they need glasses, give them a pair of MFI-safe glasses
  + Have the participant remove any metal they are wearing.
    - Jewelry, cellphone, watch, belt, etc.
  + Place any personal items in the locker and take the key with you
  + Ask the participant if they could like a CD copy of their scan
* Metals Screening Form
  + Have the participant fill out the metals screening form
* Offer the Participant a chance to Use the restroom before the scan beings

# **Mock Scanning (Optional)**

* If the participant is uncomfortable with/unsure of the scanning procedure, they can experience a facsimile of a scan in the mock scanner. This will simulate the feeling and sounds of being in the actual scanner.
* Set Up
  + Flip the sign on the door to say “Testing in Progress”
  + Turn on the mock scanner equipment
    - Power switch behind the mock scanner should be on
    - Light on the Belkin box should be green
  + Turn on the computer
    - If it is logged into the Linux server, you will see a username “Motion.” Type in password: motion and restart computer via the gear symbol in the top right corner of the screen. Computer should default to Windows server when restarted.
  + To log into Windows use username: Mock Scanner, and password: CBI1sB0mb!
* Explain the MRI Process to the Participant
  + It is best to give as much detail as is necessary to help the participant feel comfortable with the process.
* Put the Participant into the Scanner
  + Ensure that they have earplugs
  + Place the headcoil over their head and explain that the mirror will reflect the screen behind them
  + Ensure that their arms stay close to their body before you slide them into the mock scanner
* Conduct the Mock Scan
  + Click the CBI Users shortcut on the desktop and open the MRI sounds folder
  + Explain that you will play sounds that simulate the experience of a real MRI
  + Adjust the volume to 10 and play the MPRAGE audio file
  + Gradually increase the volume to 40, while gauging the participant’s comfort level
* Assess the Participant’s Response to the Mock Scan
  + Ask if they felt okay in the scanner and if they want to proceed to the real scan
  + If so, go to Step 3

# **Set up for Scan**

* Ensure That All Pre-Scan Procedures Were Taken Care Of
  + De-metaling, Metals Screening Questionnaire, MRI-safe glasses, personal items locked up, confirm scan details and length, offer to use the restroom
  + Give Metals Screen Questionnaire to the MRI tech
* Set Up Computer While MRI Tech is Loading Participant into Scanner
  + If necessary, open any files and/or set up any processes associated with your study on the scanner computer.
    - More details can be found in study specific documentation.
* Ensure that Participant is Comfortable and Ready to Begin the Scan
  + To speak with participants in the scanner from the console, hold down talk button on microphone
    - Be sure to turn up the volume on their mic in order to hear their response
  + Remind the participant to relax
  + Ask if they can see the crosshair on the screen
  + Ensure that the participant has an emergency squeeze ball in their hand
  + If needed, provide the MRI tech with participant ID and protocol number
* MRI CDs (optional)
  + If a participant requests a CD copy of his/her scan:
    - Tell the MRI tech a CD was requested.
    - Start burning CD after T1/MPRAGE and T2 sequences are complete.
    - Once CD is ejected, write the participant’s last name, first name, “Brain MRI,” and date of acquisition on the CD.

During Scan

* Consult your study specific documentation for scan details.
* Note: If participant is nervous or uncomfortable, check in on them more frequently between scans, letting them know how long each segment will take
* **Quality check images on the tech’s computer screen while scan is happening**
  + Note any obvious errors apparent in brain image
    - These could be due to participant moving too much, metal somewhere near the participants head, or possibly other rare issues.
  + Restart scan if images are skewed due to motion or dramatic artifacts.
* When scans are complete, MRI tech will remove participant from scanner
* Return the participant’s personal items and offer them a chance to get water or use the restroom before moving on to the recognition task

# **Post-scan Scan Procedures**

* Be sure to thank the participant and make sure that they are aware of how to get where they need to go next.
* Complete any post-scan documentation required by your study.
  + This may include paper documentation, logging data in Redcap, etc.