**MRI Safety Procedures**

Before we head into the scanner, we’ll now go over some fMRI safety procedures with you. First, please take a look at the PNI MRI clothing guidelines and if you need to remove anything now is a good time to do that -- jewelry, anything in your hair, belts, underwire bra...

**Noise:** First, the MRI scanner is really loud when it’s turned on and actively scanning. To protect your ears, **I am going to give you some earplugs.** Have you worn these foam-style earplugs before? You will roll them to squeeze them down, then use your opposite hand to go over your head, pull your ear straight up, then insert the earplug and the foam will expand when it’s inside your ear. When you are in the scanner, I will also place some foam pads over your ears to provide an extra layer of sound protection.

**Intercom System + Squeeze Ball:** We will be able to communicate with each other throughout the experiment via an intercom system. So you can talk and I will hear you in here, and I can talk back. However, we can only talk to each other when the scanner is not running; when the scanner is running that is when it is super loud and if you try to talk to me I won’t be able to hear you. I am going to give you a squeeze ball to keep next to you during the scan.  **If you need to get my attention for something that is an urgent matter while the scanner is running, you should press the squeeze ball.** If you press the squeeze ball, that will sound an alarm in here which lets me know I need to turn off the scanner and check in with you. You should only use the squeeze ball if it’s something urgent; if it’s something that can wait until the end of the scan, then it’s best to wait and we will talk to each like we normally will between scans.

**Staying Awake & Engaged:** Next, I want to emphasize the importance of you staying awake and engaged throughout the entire task. **Conducting fMRI experiments is incredibly costly, and so its important for all our participants to do their best to stay awake during the scan. If not, we may not get the information we need and a substantial amount of money and time may be wasted.** There is an eye-tracker inside the scanner that I will have turned on so that I can verify that your eyes are open. I am not actually tracking your eye movements or recording any eye-tracking data. If you start to feel drowsy during a scan, do your best to push through the scan; then between scans is your opportunity to rest. You can rest your eyes (just don’t fall asleep!), stretch out a little bit, take some deep breaths, think about something else, do whatever you need to do to feel as alert as possible before starting the next scan. You will always indicate when you are ready to start the next scan; I will never turn on the scanner until you have indicated you are ready to begin.

**Head motion**: The most important thing is that your head remains as still as possible while we are scanning. Even moving your head as little as 1mm can cause blurring and distortion in the images, and that negatively affects the quality of the data. If there is too much head motion in a scan, we actually have to throw away all the data for that participant. When I am getting you in the scanner, take as much time as you need to make sure you feel as comfortable as possible because once we start the scan you will be in that position for an extended period of time -- make sure your neck and shoulders are straight and in line with your head. Make sure you are resting on a comfortable part of the back of your head. I will also use foam pads to try and hold your head in place; the pads help a little but it’s really up to you to be as still as possible. While we are scanning, you should try to keep your entire body still because even moving your arms and your legs can cause your head to move. If you need to move or stretch a little, really try to save that for the breaks between scans. Between scans you can stretch out a little bit - try to keep your movements small - and then you should only indicate you are ready to start the next scan when you are ready to be totally still for the duration of the next scan. I will also place a piece of blue painter’s tape across your forehead. The tape is there to provide you with some tactile feedback, so if you move your head then you should feel the feedback from the tape. I will also be tracking your head motion on a computer out here -- I can let you know how you are doing with keeping your head still between runs if you are interested.

**PNS**: There is a possibility that the magnetic gradients can stimulate your nerve or your muscles. What this feels like is a light tingling or twitching in some part of your body. It is not dangerous, it is not an indication that anything is wrong, and the sensation will stop as soon as the scanner stops. If you experience this and you find it very bothersome, press the squeeze ball and I will turn off the scanner. If you experience this and it’s not very bothersome, then we will scan through it and let me know you experienced it at the end of the scan.

**Loops**: You want to avoid creating loops with your body. What this means is don’t cross your legs and don’t cross your arms.

**Scanner Setup:** When I am getting you in the scanner, I have to make sure your head is straight and centered. In order to do that, I will shine a laser crosshair on your forehead. It’s important that you keep your eyes closed and don’t open them until you clearly hear me say “open”, because I don’t want to shine a laser in your eyes! So I will ask you to close your eyes, then you might feel the bed move a little as I adjust your position, or you might not feel anything happening at all and you might think it’s ok to open your eyes because you think nothing is happening. But don’t open until you hear me say open.

**Head coil and mirror**: I will be placing what is called the head coil on over your head. It’s like a big plastic helmet, and this is what allows us to image your brain. Attached to the head coil is a mirror; you will be viewing the computer screen through this mirror since you are laying on your back in the scanner. The mirror is on a track, and you can reach up with your hand to move it up or down on the track. Once you are back inside the scanner, take a moment and adjust the mirror if you need to so that you can see the entire computer screen.