

# Female Sex Hormones and Neuromuscular Function



## REQUEST FOR RESEARCH PARTICIPANTS

### Who is conducting the study and what is this study about?

Researchers from the Department of Health and Exercise Science at Colorado State University are recruiting participants for a study to measure how brain and muscle function and walking and balance performance change across different phases of the menstrual cycle.

### Who can join this study?

You can participate in this study if you are a healthy adult female (sex-assigned at birth) or an adult female diagnosed with relapsing remitting multiple sclerosis (ages 18-40), you have a menstrual cycle that occurs every 21-35 days, you are able to walk without an assistive device, and able to perform repeated contractions of knee muscles.

### What will I be asked to do?

Participants enrolled in this study are asked to complete four testing sessions each lasting roughly 2-3 hours. All sessions involve testing of knee muscle strength. In three sessions, non-invasive brain stimulation called transcranial magnetic stimulation (TMS) will be used to measure brain activity

before and after performing repeated knee muscle contractions until fatigued. These three sessions will also involve walking in the hallway and balancing on a force plate while outfitted with sensors to measure your movement performance. Blood draws will also be performed in these three sessions. Testing will take place in the Sensorimotor Neuroimaging Laboratory in Moby Complex B in the Health & Exercise Science Department at Colorado State University.

### Why should I join this study?

Results from this study will enable researchers to determine whether brain and muscle function and movement performance differ across menstrual cycle phases in women with MS and in healthy, neurotypical women.

### How do I join this study?

If you want to join this study, contact the Study Coordinator/ Co-PI listed below. For more information about this study and the Sensorimotor Neuroimaging Laboratory visit our laboratory webpage at:

<http://www.sensorimotorlab.chhs.colostate.edu/index.aspx>

### PLEASE CONTACT US FOR MORE INFORMATION

Dr. Kristin Johnson (Study Coordinator/Co-PI)  
319-270-2210  
[kristin.johnson@colostate.edu](mailto:kristin.johnson@colostate.edu)

Dr. Brett Fling (Principal Investigator)  
Associate Professor, Dept. of Health and Exercise Science  
[brett.fling@colostate.edu](mailto:brett.fling@colostate.edu)