

study coordinator guide

Mobile Sensor Data Collection for the Dynamic Analyses of
Stress and Socioeconomic Status with Smoking Cessation

phone setup

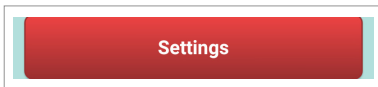


download the config file

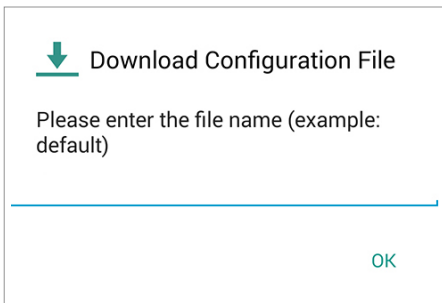
1. On the smartphone, open the mCerebrum app.



2. On the mCerebrum app startup screen, tap the *Settings* button..



3. You will be prompted to download the config file. Please enter the config file name.



install/update apps

1. If asked for a password to access the Admin Settings, enter the password: **1234**
2. Tap *Configure Applications*.
3. Tap *Applications*.
4. On the Install Applications screen, tap the *Check Updates* button at the bottom of the screen.



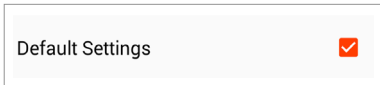
5. If any apps listed show a red X icon (✘), tap the app in the list then tap *Install*.
If any apps listed show a yellow caution icon (⚠), tap the app in the list then tap *Update*.
When every app shows a green check mark (✔), this means all apps are installed and up-to-date. Tap *Close*.

phone setup (continued)



configuring the phone sensor

1. Once all applications are installed and up-to-date, return to the System Settings screen and tap *Settings*.
2. Tap *PhoneSensor*.
3. Tap to place a check mark in the box next to Default Settings.



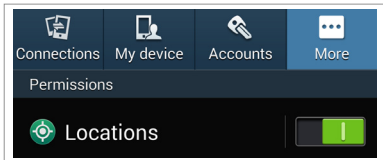
4. Tap *Save*. The phone sensor is now configured.

IMPORTANT: To ensure high-quality data collection, the GPS feature of the smartphone must be set to *High Accuracy Mode*.

1. Open the Settings app on the smartphone.



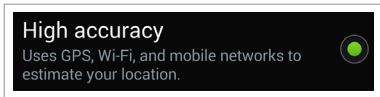
2. Under the *More* tab in the Settings app, tap *Locations*.



3. On the Locations page, tap *Mode*.



4. On the next page, tap *High accuracy* to set the GPS to High Accuracy Mode.

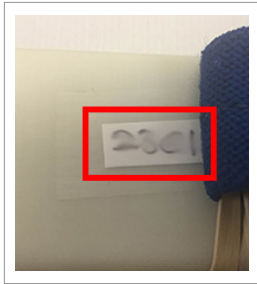


chest sensor setup



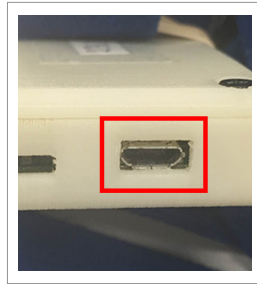
configuring the chest sensor

ID number



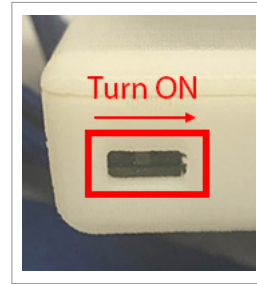
The ID number is found on a white label on the bottom of the chest sensor.

charging port



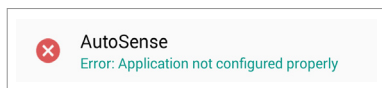
The charging port is found on the side of the chest sensor.

power switch

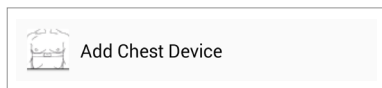


The power switch is found on the side of the chest sensor. To turn power ON, use a pen to slide the switch to the right as shown.

1. If necessary, go to the System Settings screen in the mCerebrum app and tap *Settings*.
2. Tap *AutoSense* to access the AutoSense Settings screen.



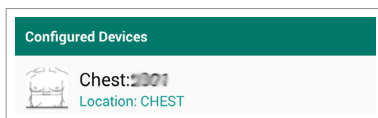
3. Tap *Add Chest Device*.



4. On the Chest Settings screen, under the Available Devices heading, tap the ID number of your device.

Note: Make sure you are selecting the ID number from the chest sensor that corresponds with this phone. If you do not see the device in the list, please ensure the sensor battery is charged and powered on.

5. With the device ID number selected, tap *Save*. You should now see the appropriate chest sensor listed under the Configured Devices heading on the AutoSense Settings screen.



6. Tap *Save* again to complete chest sensor setup.

wrist sensor setup



configuring the wrist sensor

ID number



The ID number is found on the back of the wrist sensor (must be removed from the wrist band).

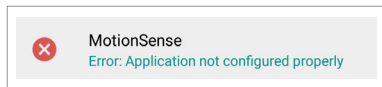
charging



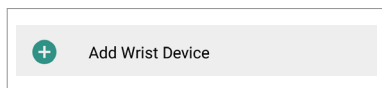
To charge the wrist sensor, place it face-down on the center of the charger.

Note: The blue LED lights around the ring of the charger will light up to confirm the sensor is charging. You may need to adjust the position of the sensor carefully in order to find the correct charging position.

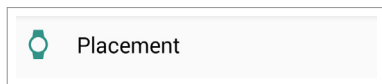
1. If necessary, go to the System Settings screen in the mCerebrum app and tap *Settings*.
2. Tap *MotionSense* to access the MotionSense Settings screen.



3. Tap *Add Wrist Device*.



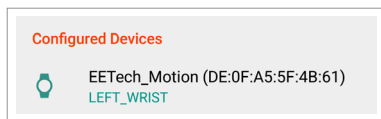
4. On the MotionSenseWrist Settings screen, tap *Placement* and select *Left Wrist* or *Right Wrist*.



5. Under the Available Devices heading, you should see the ID number of your device. Please tap the ID number.

Note: Make sure you are selecting the ID number from the wrist sensor that corresponds with this phone. If you do not see the device in the list, please ensure the sensor battery is charged and powered on.

6. With the device ID number selected, tap *Save*. You should now see the appropriate wrist sensor listed under the Configured Devices heading on the MotionSense Settings screen.



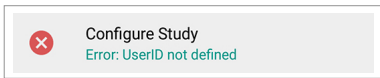
7. Tap *Save* again to complete wrist sensor setup. Repeat these steps to configure a second wrist sensor for the opposite hand.

study setup

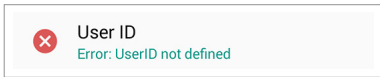


setting the user ID

1. Go to the Admin Settings screen. Tap *Configure Study*.



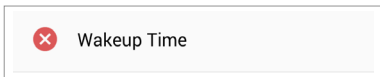
2. On the next screen, tap *User ID*.



3. Type the desired ID of the participant then tap *OK*.

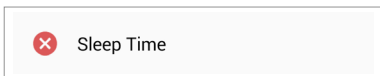
setting wake and sleep times

1. Go to the Study Setup screen and tap *Wakeup Time*.




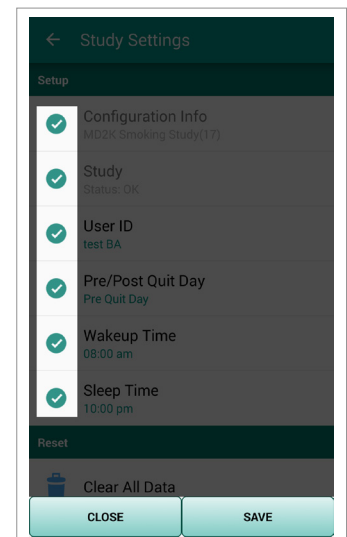
2. Select the time you expect data collection to begin each morning and tap *OK*.

To set the expected sleep time, repeat the same steps, but instead tap *Sleep Time* in step 1.



saving user settings

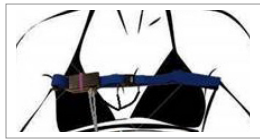
1. When you have finished setting the user ID, wakeup time, and sleep time, please tap *Save* on the Study Setup screen.
2. If all items under the Setup heading have a green check mark  beside them, study setup is complete. You may tap *Close*.
3. Tap *Start Study* when you are ready to begin the study.



wearing the chest sensor



1. Make sure the chest sensor is charged and powered ON.
2. Wear the chest band under the armpits as shown.



3. Plug the RIP connectors into the **outside socket** of the chest sensor. Plug the two other ends into the chest band (near the buckle).

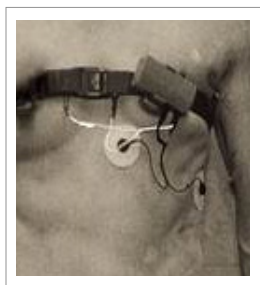


4. Plug the ECG connectors into the **inside socket** of the chest sensor.

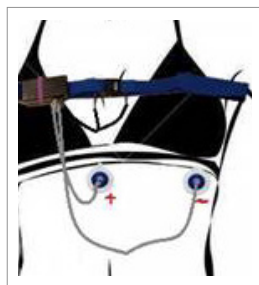


5. Place two electrodes on the body as shown, then attach the other ends of the ECG connectors to the electrodes.

Note: Proper placement of electrodes on the body is important.



male



female

To confirm the sensor is working, see the *verifying data collection* instructions on the next page.

wearing the wrist sensors



1. Make sure the wrist sensor is charged.
2. Wear the wrist sensor with the device face-up on the wrist and the buckle going over the top of the wrist as shown.



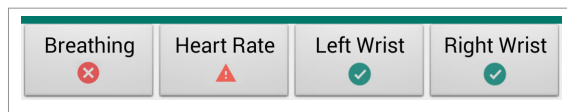
Note: It is important to always wear each sensor on the same wrist (left or right) as the placement chosen during the wrist sensor setup.

verifying data collection



To verify data collection, use the icons under the Sensor Data Quality heading near the top of the Study app home screen.

- ✓ **green check mark** — Good data is being collected
- ⚠ **red caution** — Data is being collected, but there is an issue with data quality (i.e. sensor is not worn properly)
- ✗ **red X** — No data is being collected (i.e. sensor needs charging, sensor is powered off, sensor is not paired properly)



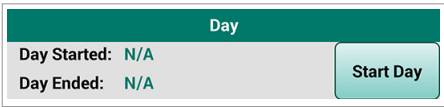
using the app



start day

During each day of the study, participants should tap the *Start Day* button when data collection is ready to begin. This allows the software to trigger EMAs during appropriate times.

1. Make sure all sensors are properly worn.
2. In the mCerebrum app, tap the *Start Day* button to begin the day. Tap *Yes* to confirm.



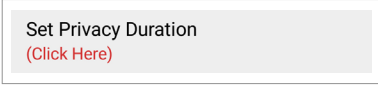
privacy

Privacy Control allows users to turn off certain features for a limited period of time. For example, they may wish to momentarily disable EMAs while they are busy or disable the GPS feature while they visit a particular location.

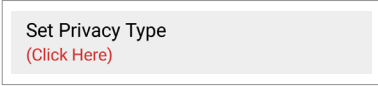
1. In the mCerebrum app, tap the *Turn On* button under the Privacy heading.



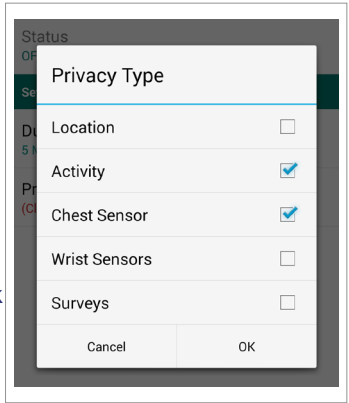
2. On the Privacy Control Settings screen, tap *Set Privacy Duration*. Select the amount of time for which you wish to disable the feature(s).



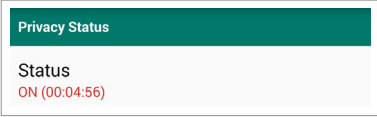
3. Next, tap *Set Privacy Type*.



4. Select each of the features you would like to temporarily disable. You will see a check mark appear to confirm the feature is selected.
5. Tap *Start* to begin the privacy timer.



6. You will see a countdown timer under the Privacy Status heading to confirm the privacy settings are enabled. When you are finished, tap *Close*.



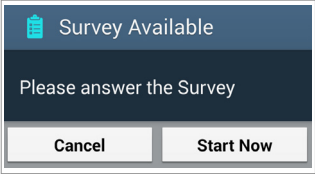
using the app (continued)



EMAs

EMAs will be automatically triggered by the software during a study.

The participant will receive alerts on their phone that will prompt them to complete an EMA exercise. The phone will vibrate and sound an alarm for 30 seconds when it is time to complete an EMA exercise.



For additional testing purposes, EMAs can be accessed through the *Admin Settings* menu.

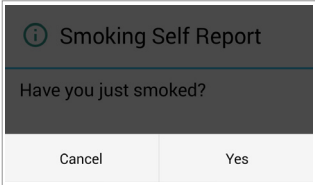
1. From the mCerebrum app home screen, tap the Options menu in the upper-right corner, then tap *Admin Settings*. Enter the password: **1234**
2. Tap *Test*, then tap *EMA Test*. Select which EMA exercise you would like to test.

smoking report



Smoking Report allows users to report the moment when they have smoked a cigarette.

1. In the mCerebrum app, tap the *Smoking Report* button (shown above).
2. When the question below appears, tap *Yes* to verify smoking has occurred or *Cancel* to cancel the smoking report.



plotter

Plotter allows users to view the data plotters for each available sensor.

1. In the mCerebrum app, tap the icon button under Sensor Data Quality for the sensor data you wish to view.
2. Tap the *Graph...* button on the next screen to view the plotter.
3. When finished, use the smartphone's Back button to manually return to the mCerebrum app.

charging the devices



All devices should be charged every night. Use the device charger and cables to charge the smartphone and sensors, and let them charge overnight.

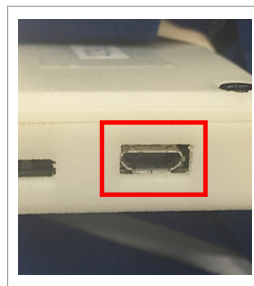
The battery life of the smartphone and sensors should last for the duration of each day.

smartphone



The charging port is found on the bottom of the smartphone.

AutoSense chest sensor



The charging port is found on the side of the chest sensor.

MotionSense wrist sensor



To charge the wrist sensor, place it face-down on the center of the charger. The blue LED lights around the ring of the charger will light up to confirm the sensor is charging. You may need to adjust the position of the sensor carefully in order to find the correct charging position.