CVR experiment Checklist Medtronic CO2 monitor

1. Items to bring to the experiment:

Disposable

- ☐ Nose clip
- ☐ Mouthpiece
- ☐ CO2 sampling line

Non-disposable

- ☐ Two-way non-rebreathing valve
- ☐ Mouthpiece-valve connecting tube
- ☐ Gas delivery tube
- ☐ Douglas bag filled with 5% CO2 air. Please empty the airbag after each scan (i.e., do not reuse the gas in the airbag), and re-fill the airbag right before the next scan (i.e., do not let the filled airbag sit there for more than 1.5 hours)
- ☐ Goose neck stand
- ☐ Signal bar (optional)

CO2 recording

- ☐ CO2 monitor (monitor, CO2 sampling)
- ☐ USB drive
- ☐ Watch
- ☐ Switching timesheet

2. Before the experiment:

- ☐ Set up CO2 monitor and connect sampling
- ☐ Connect USB drive to the monitor and start recording, please make sure to twist the orange end tight to avoid leakage
- ☐ Connect two-way non-rebreathing valve to the goose neck stand and fix it onto the scanner table
- ☐ Set up mouthpiece, mouthpiece-valve connecting tube, and sampling line extension

3. Prepare the subject:

- ☐ Put on mouthpiece and connect the mouthpiece-valve connecting tube to the two-way non-rebreathing valve
- ☐ Put on nose clip
- ☐ Connect the Gas deliver tube to the two-way non-rebreathing valve
- ☐ Check CO2 trace on the CO2 monitor, make sure the CO2 value is about 30-45 mmHg, if the value is too low, please check if there any leakage or untight connection

4. Perform CVR scan

Person stays outside

- ☐ Signaling the researcher inside the scanner room at the 6th dynamic
- ☐ Observe the CO2 trace, during the CO2 inhalation period, make sure the peak CO2 value is about 45-55mmHg

Person stays inside

- ☐ Start the stopwatch when signaled
- ☐ Switch according to the timing sheet

5. After CVR scan

- ☐ Remove nose clip and mouthpiece from the subject
- ☐ Disassemble the gas delivery system
- ☐ Disassemble the CO2 recording system
- ☐ Dispose of mouthpiece, nose clip, sampling line extension
- ☐ Empty the gas bag completely
- ☐ Clean up the two-way non-rebreathing valve and mouth piece-valve connecting tube

CVR experiment Checklist Phillips NM3 CO2 monitor

1. Items to bring to the experiment:

Disposable

- ☐ Nose clip
- ☐ Mouthpiece
- ☐ CO2 sampling line extension

Non-disposable

- ☐ Two-way non-rebreathing valve
- ☐ Mouthpiece-valve connecting tube
- ☐ Gas delivery tube
- ☐ Douglas bag filled with 5% CO2 air. Please empty the airbag after each scan (i.e., do not reuse the gas in the airbag), and re-fill the airbag right before the next scan (i.e., do not let the filled airbag sit there for more than 1.5 hours)
- ☐ Goose neck stand
- ☐ Signal bar (optional)

CO2 recording

- ☐ CO2 monitor (monitor, CO2 sensor, sampling line with dehumidifier, power cord)
- ☐ USB drive
- ☐ Watch
- ☐ Switching timesheet

2. Before the experiment:

- ☐ Set up CO2 monitor, connect the CO2 sensor and the sampling line
- ☐ Connect USB drive to the monitor and start recording
- ☐ Connect two-way non-rebreathing valve to the goose neck stand and fix it onto the scanner table
- ☐ Set up mouthpiece, mouthpiece-valve connecting tube, and sampling line extension

3. Prepare the subject:

- ☐ Put on mouthpiece and connect the mouthpiece-valve connecting tube to the two-way non-rebreathing valve
- ☐ Put on nose clip
- ☐ Connect the Gas delivery tube to the two-way non-rebreathing valve
- ☐ Check CO2 trace on the CO2 monitor, make sure the CO2 value is about 30-45 mmHg, if the value is too low, please check if there any leakage or untight connection

4. Perform CVR scan

Person stays outside

- ☐ Signaling the researcher inside the scanner room at the 6th dynamic
- ☐ Observe the CO2 trace, during the CO2 inhalation period, make sure the peak CO2 value is about 45-55mmHg

Person stays inside

- ☐ Start the stopwatch when signaled
- ☐ Switch according to the timing sheet

5. After CVR scan

- ☐ Remove nose clip and mouthpiece from the subject
- ☐ Dissemble the gas delivery system
- ☐ STOP CO2 recording
- ☐ Dissemble the CO2 recording system
- ☐ Dispose of mouthpiece, nose clip, sampling line extension
- ☐ Empty the gas bag completely
- ☐ Clean up the two-way non-rebreathing valve and mouth piece-valve connecting tube

CVR experiment switching instruction

Start the stopwatch when signaled

Action	***Watch***	***Condition***
Start stop watch	00:00:00	Room air
Switch on	00:00:15	5% CO2
Switch off	00:01:05	Room air
Switch on	00:02:15	5% CO2
Switch off	00:03:05	Room air
Switch on	00:04:15	5% CO2
Switch off	00:05:05	Room air
End	00:07:00	