

**SDB and the Metabolic Syndrome  
Cerebral Blood Flow Protocol  
Subject Data Sheet and Protocol Checklist**

Cohort ID \_\_\_\_\_ Date: \_\_\_\_\_

Barometric pressure: \_\_\_\_\_ Time of Day: \_\_\_\_\_

Height: \_\_\_\_\_ Age: \_\_\_\_\_ Gender: M F  $VC_{pred}$ : \_\_\_\_\_

Before subject arrives:

- change bed linens if necessary
- check position head of bed (30 degrees)
- determine barometric pressure; record on data sheet and paper record
- turn on power to instrument rack, Finapres
- confirm that Gould channel 1 is recording Finapres and Volts FS is correct
- set up Doppler (scale: -40 to +160; T=50%, R=30%, S=30%); Probe # \_\_\_\_\_
- set up computer, paper recorder for data acquisition
- calibrate flow, CO<sub>2</sub>, O<sub>2</sub>, Doppler, blood pressure
- fill bag with 3% CO<sub>2</sub>, 40% O<sub>2</sub>; Volume =  $VC_{pred}$
- set up breathing circuit

Preliminary procedures:

- explain procedures; answer questions

Subject instrumentation:

- find optimal Doppler signal; place headgear
- move to bed
- attach ECG lead wires
- apply Finapres cuff
- go on mouthpiece
- apply noseclip
- optimize Doppler signal; depth \_\_\_\_\_, Power \_\_\_\_\_, Gate \_\_\_\_\_, mean velocity (~) \_\_\_\_\_

Protocol:

- ❑ familiarization period of normoxic eupnea with blue tube detached (watch for stabilization of PETCO<sub>2</sub> and blood pressure)
- ❑ turn off Finapres resets
- ❑ make note of baseline PETCO<sub>2</sub> level and mark on paper record
- ❑ add blue tube and turn valve to begin rebreathing
- ❑ mark PETCO<sub>2</sub> level of 1<sup>st</sup> breath from bag; continue with rebreathing until one breath registers 10 mmHg above this level
- ❑ open valve to room air
- ❑ after 1 room air breath, remove mouthpiece

Recovery procedures:

- ❑ Continue data recording until cerebral flow velocity returns to baseline (at least 1 minute)
- ❑ Remove Doppler probe
- ❑ Discontinue ECG monitoring (leave electrodes on subject) and blood pressure monitoring

**Format of Excel Spreadsheets Sent to Database Manager**

Cohort ID	
Study Date (mm/dd/yyyy)	
CCRabsolute	
CCRpercent	
HCVR	
PETCO2base	
VEbase	
MAPslope	
HRbase	
HRslope	

Analyzed by: \_\_\_\_\_

Date: \_\_\_\_\_

