



SLEEP DISORDERS CENTER OF VIRGINIA

*Say Goodnight Virginia*

Policies & Procedures

## Bio-Calibration

ALL Locations

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To ensure all channels are responding appropriately to the chosen signal derivation. Signals tracings are to be clean and free of contamination from interfering signals (60 Hz, excessive ECG artifact, electrode popping, etc.).

- Ask patient to lie in supine position and be still and relax before beginning bio-calibration.
- Watch to ensure responses recorded match command. Also make sure that everything is quiet and back to baseline before beginning next bio-cal.
- Eyes open- Hold eye's open for 30 seconds and look straight. (This may look similar to N1 sleep, EEG waves will be relatively low voltage mixed frequency pattern. Wake will exhibit fast eye movements and eye blinks elevated chin EMG.
- Eyes closed- Close eyes for 30 seconds. Predominance of Alpha activity in occipital EEG and will also be reflected in the central EEG and eye channels. **If you do not see alpha activity tell the patient to imagine they are on a beautiful, peaceful beach or something similar to help them to relax.**

- With Eyes only look up and down 3 times- The eyes will deflect the movement. Eyes up they will deflect towards each other. Eyes down they will deflect away from each other. EEGs will mimic the eye activity in the central regions.
- With eyes only look to the left and right 3 times. - The eyes on right will come together. Eyes left they will deflect apart from each other.
- Blink 10 times- The eyes will reflect the inward and outwards. Alpha activity should be noted in the closing of the eye blinks.
- Clench, grind, swallow, yawn- Will produce higher amplitude signals in the chin EMG. Also muscle activity will be noted in the EEGs.
- Three deep breaths- allows you to adjust the signal from the airflow (auto-scale, or adjust gain if signal blocks off) the repeat the breaths (If any change made to settings document on computer and data sheet). This is also the time to make sure the chest and abdominal belts are in phase and are placed on patient properly.
- Breath hold- take a breath and blow it all out then hold breath for 10 seconds- You are looking for flat signals in the airflow and the respiratory effort belt. In some cases you may also see a change in the SpO<sub>2</sub> readings
- Point and flex left foot 3 times- This is to check the signal from the leg EMG placed on the anterior tibias. There should be 3 distinct movements noted.
- Point and flex right foot 3 times- see above.
- Snore 3 times, or count to 3- This is to ensure the placement of the snore sensor is correct and a quality signal is received. Three large burst should be noted on the snore channel.
- Paradoxical movements- (PDMs)-Take a deep breath and hold that breath now use your abdominal muscles to push your stomach in and out. You should see out of phase signals from the respiratory belts and no airflow. (hint: you could draw a zero in between the out of phase movement of the belts.
- Thank the patient and tell them that they can now go to sleep.
- Begin the study.