Biofeedback Essential Skills Check List

A beginning biofeedback practitioner should be able to demonstrate mastery of the following basic skills as attested by their BCIA-approved mentor.

Please initial each skill as you work through it with your candidate for certification. If there are skills that you did not personally observe, please place an X on the line indicating this item was not completed with you. A candidate may have more than one mentor and so another professional may be able to sign off on those skills that you personally cannot confirm.

Blood Volume Pulse

_____ Explain the blood volume pulse signal and biofeedback to a client.

_____ Explain PPG sensor attachment to a client, and obtain permission to monitor him or her.

_____ Explain how to select a placement site and demonstrate how to attach a PPG sensor to minimize light and movement artifacts.

_____ Perform a tracking test by asking your client to raise the monitored hand above the heart and then lower the hand.

_____ Identify common artifacts in the raw PPG signal, especially movement, and explain how to control for them and remove them from the raw data.

_____ Explain the major measures of heart rate variability, including HR Max - HR Min, pNN50, SDNN, and SDRR.

_____ Explain why we train clients to increase power in the low frequency band of the ECG and how breathing at 5-7 breaths per minute helps them accomplish this.

_____ Demonstrate how to instruct a client to utilize a feedback display.

_____ Describe strategies to help clients increase their heart rate variability.

_____ Demonstrate an HRV biofeedback training session, including record keeping, goal setting, site selection, baseline measurement, display and threshold setting, coaching, and debriefing at the end of the session.

_____ Demonstrate how to select and assign a practice assignment based on training session results.

_____ Evaluate and summarize client/patient progress during a training session.

EMG

_____ Explain the EMG and biofeedback to a client.

_____ Explain skin preparation and electrode placement to a client, and obtain permission to monitor him or her.

_____ Identify active- and reference-electrode placements using a marking pencil for bilateral cervical paraspinal, frontalis, masseter, sternocleidomastoid, and trapezius sites.

_____ Demonstrate skin preparation and electrode placement.

_____ Measure electrode impedance for each active-reference electrode pair and ensure that impedance is sufficiently low and balanced.

_____ Perform a tracking test for your placement, instructing the client to contract and then relax the monitored muscle.

_____ Identify common artifacts in the raw EMG signal, including 50/60Hz, bridging, ECG, loose electrode, movement, and radio frequency, and explain how to control for them and remove them from the raw data.

_____ Demonstrate how to instruct a client to utilize a feedback display.

_____ Demonstrate a surface EMG biofeedback training session, including record keeping, goal setting, site selection, bilateral and unilateral recording, and bandpass selection, baseline measurement, display and threshold setting, coaching, and debriefing at the end of the session.

_____ Demonstrate how to select and assign a practice assignment based on training session results.

_____ Evaluate and summarize client progress during a training session.

Heart Rate

_____ Explain the ECG signal and biofeedback to a client.

_____ Explain ECG sensor attachment to a client, and obtain permission to monitor him or her.

_____ Explain how to select a placement site and demonstrate how to attach ECG sensors to minimize movement artifact.

_____ Demonstrate skin preparation.

_____ Perform a tracking test by asking your client to slowly inhale and then exhale as you watch the change in heart rate.

_____ Identify movement artifact in the raw ECG signal, and explain how to control movement and remove this artifact from the raw data.

_____ Explain the major measures of heart rate variability, including HR Max - HR Min, pNN50, SDNN, and SDRR.

_____ Explain why we train clients to increase power in the low frequency band of the ECG and how breathing at 5-7 breaths per minute helps them accomplish this.

_____ Demonstrate how to instruct a client to utilize a feedback display.

_____ Describe strategies to help clients increase their heart rate variability.

_____ Demonstrate an HRV biofeedback training session, including record keeping, goal setting, site selection, baseline measurement, display and threshold setting, coaching, and debriefing at the end of the session.

_____ Demonstrate how to select and assign a practice assignment based on training session results.

_____ Evaluate and summarize client progress during a training session.

Respiration

_____ Explain the respiration signal, healthy breathing, and biofeedback to a client.

_____ Explain sensor attachment to a client, and obtain permission to monitor him or her.

_____ Explain how to select a placement site and demonstrate how to attach a respiration sensor to the chest and abdomen. Show how to monitor the accessory muscles to measure breathing effort.

_____ Perform a tracking test asking your client to take a slow, deep breath.

_____ Identify breath holding, gasping, and movement artifact in the respiration signal, and how to remove them from the raw data.

_____ Explain how to identify clavicular breathing, excessive breathing effort, reverse breathing, and thoracic breathing.

_____ Explain how posture and clothing can affect breathing.

_____ Demonstrate how to find your client's resonance frequency and explain why this is important.

_____ Demonstrate how to instruct a client to utilize a breathing pacer and the feedback display.

_____ Discuss strategies for slowing down your client's breathing toward 5-7 breaths per minute.

_____ Demonstrate a respiratory biofeedback training session, including record keeping, goal setting, site selection, baseline measurement, display and threshold setting, coaching, and debriefing at the end of the session.

_____ Demonstrate how to select and assign a practice assignment based on training session results.

_____ Evaluate and summarize client progress during a training session.

Skin Conductance/Skin Potential

_____ Explain the SC/SP signal and biofeedback to a client.

_____ Explain sensor attachment to a client, and obtain permission to monitor him or her.

_____ Explain how to select a placement site and demonstrate how to attach a sensor to minimize movement artifact.

_____ Explain how to protect the client from infection transmitted by the sensor.

_____ Perform a tracking test by asking your client to take 3 quick breaths.

_____ Identify common artifacts in the raw SC/SP signal, including movement and respiration, and explain how to control for them and remove them from the raw data.

_____ Demonstrate how to instruct a client to utilize a feedback display.

_____ Demonstrate an electrodermal biofeedback training session, including record keeping, goal setting, site selection, baseline measurement, display and threshold setting, coaching, and debriefing at the end of the session.

_____ Demonstrate how to select and assign a practice assignment based on training session results.

_____ Evaluate and summarize client progress during a training session.

Temperature

_____ Explain the temperature signal and biofeedback to a client.

_____ Explain thermistor attachment to a client, and obtain permission to monitor him or her.

_____ Explain how to select a placement site and demonstrate how to attach a thermistor to minimize blanketing, movement, and stem artifacts.

_____ Perform a tracking test by asking your client to blow on the thermistor bead.

_____ Identify common artifacts in the raw temperature signal, including draft and movement, and explain how to control for them and remove them from the raw data.

_____ Demonstrate how to instruct a client to utilize a feedback display.

_____ Describe strategies to help clients with cold hands, who warm very slowly, or who cool when they attempt to warm their hands.

_____ Demonstrate a temperature biofeedback training session, including record keeping, goal setting, site selection, whether to record bilaterally or unilaterally, baseline measurement, display and threshold setting, coaching, and debriefing at the end of the session.

_____ Demonstrate how to select and assign a practice assignment based on training session results

_____ Evaluate and summarize client progress during a training session.

I attest that this work has been completed for: _____.

                                                Name of Candidate for BCIA Certification

Signature of the Mentor: _____ Date: _____

Printed Name of Mentor: _____ BCIA #:_____

If using more than 1 mentor, please make copies of this document for each mentor to complete.