Electrophysiological Assessment of Guided Relaxation in Individuals with Autism

PRIMARY INVESTIGATORS:

- Matthew Goodwin, The Groden Center
- Elena Festa Martino, Psychology Department, Brown University
- William C. Heindel, Psychology Department, Brown University
- June Groden, The Groden Center

DESCRIPTION:

A number of studies have assessed the impact of relaxation training on individuals with autism and other developmental disabilities. Findings generally indicate that relaxation training effectively reduces disruptive, aggressive, and stereotypic behaviors in this population. However, it is unclear whether relaxation training simply serves as a replacement behavior incompatible with disruptive actions, or if physiological changes including respiratory, cardiovascular, and brain wave activities mediates behavioral improvements by decreasing arousal. A more thorough understanding of the physiological changes associated with relaxation training is needed to provide better information about the nature of this stress reduction technique, and to further determine if guided relaxation is an effective therapeutic procedure for children with autism. The goal of this project is to assess the impact of guided relaxation in 10 children with autism. We propose to use electrophysiological scalp electrical activity (EEG) measures, and autonomic nervous system (ANS) measures (e.g., respiration, heart rate, heart rate variability) to: (1) identify and characterize brain regions active during the performance of guided relaxation and (2) identify and characterize autonomic changes in arousal during the performance of guided relaxation.