

# Journal of Neurotherapy: Investigations in Neuromodulation, Neurofeedback and Applied Neuroscience

## The Clinical Corner

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#### **CLINICAL CORNER**

#### D. Corydon Hammond, Associate Editor

The purpose of the Clinical Corner is to provide space for clinically oriented material that may not, in many cases, have been evaluated yet by controlled research. Therefore, the personal opinions expressed in the column are exactly that, the opinions of the individual authors, often based on their clinical experience. The opinions shared belong to the authors and are not necessarily those of the International Society for Neurofeedback and Research or the Journal of Neurotherapy. Nonetheless, it is hoped that the diversity of opinion expressed in this column will stimulate thought and the further exchange of ideas. Readers are invited to send clinically oriented articles or questions for consideration to D. Corydon Hammond, PhD, University of Utah School of Medicine, PM&R, Salt Lake City, UT 84132, USA. E-mail: d.c.hammond@utah.edu

In the Clinical Corner in this issue, we have two reports. Dr. Robert Thatcher describes some of the more recent developments in Live Z-score Neurofeedback Training. Z-score training can be done at a limited number (e.g., four) electrode sites or using a full 19 channels. Parts of Dr. Thatcher's article are very technical in explaining some of the complexity and science behind different aspects of this approach, but clinicians unfamiliar with this type of neurofeedback will be rewarded with an excellent overview of the important details of these technological advancements. Nineteen channel Live Z-score and LORETA Z-score training does require some extra effort on the part of both therapists and patients, such as having to prep and clean up an electrode cap (and one's hair) with every session. Further controlled research will have to evaluate the cost-benefit ratio to determine if this approach to neurofeedback will live up to its potential of producing enduring changes from significantly fewer treatment sessions. However, preliminary reports of the efficacy of this training are encouraging. At a minimum, LORETA and 19-channel Z-score training provides therapists with an additional therapeutic option to use with those challenging cases where other types of neurofeedback are not producing desired changes. In the second report, Dr. Jonathan Walker presents very encouraging results on the use of QEEG-Guided Neurofeedback in Anger control.