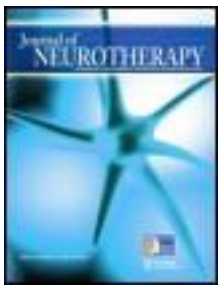

Journal of Neurotherapy: Investigations in Neuromodulation, Neurofeedback and Applied Neuroscience

News from Other Journals and Websites

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NEWS FROM OTHER JOURNALS AND WEBSITES

David A. Kaiser, PhD, Editor

There were numerous EEG, clinical neuroscience, and mental health articles published recently, so recently that many are Epubs (electronic publications ahead of the print versions). An Epub is listed only with its DOI number, not the volume or page numbers of the article. Here are some of the most relevant to neurotherapy.

Barry, R. J., Clarke, A. R., Johnstone, S. J., McCarthy, R., & Selikowitz, M. (2009). Electroencephalogram θ/β ratio and arousal in attention-deficit/hyperactivity disorder: Evidence of independent processes. *Biological Psychiatry*. Advance online publication. doi:10.1016/j.biopsych.2009.04.027

Theta/beta ratio did not correlate with a skin conductance index of arousal in ADHD.

Cohen, M. X., Axmacher, N., Lenartz, D., Elger, C. E., Sturm, V., & Schlaepfer, T. E. (2009). Nuclei accumbens phase synchrony predicts decision-making reversals following negative feedback. *Journal of Neuroscience, 29*, 7591–7598.

Strategy switches following losses were preceded by enhanced theta (4–8 Hz) phase synchrony between the nuclei accumbens, and a break-down of gamma (20–80 Hz)-alpha (8–12 Hz) coupling.

Cvetkovic, D., & Cosic, I. (2009). EEG inter/intra-hemispheric coherence and asymmetric responses to visual stimulations. *Medical & Biological Engineering & Computing*. Advance online publication. doi:10.1007/s11517-009-0499-z

High coherence in the EEG beta band was found during visual processing.

de Fockert, J. W., Ramchurn, A., van Velzen, J., Bergström, Z., & Bunce, D. (2009). Behavioral and ERP evidence of greater distractor processing in old age. *Brain Research*. Advance online publication. doi:10.1016/j.brainres.2009.05.060

The N170 component (ERP) had greater amplitude in older adults during unattended stimuli, suggesting an electrophysiological correlate of a reduced ability to prevent distraction.

De Smedt, B., Grabner, R. H., & Studer, B. (2009). Oscillatory EEG correlates of arithmetic strategy use in addition and subtraction. *Experimental Brain Research, 195*, 635–642.

Arithmetic fact retrieval produces left-hemispheric event-related synchronization of theta activity whereas application of procedural strategies is accompanied by bilateral parietooccipital alpha desynchronization.

Flores, A. B., Digiacomo, M. R., Meneres, S., Trigo, E., & Gómez, C. M. (2009). Development of preparatory activity indexed by the contingent negative variation in children. *Brain & Cognition*. Advance online publication. doi:10.1016/j.bandc.2009.04.011

Young adults show a contingent negative variation in contralateral cortical activation related to motor preparation, whereas children do not.

Friedman, D. E., & Gilliam, F. G. (2009). Seizure-related injuries are underreported in pharmacoresistant localization-related epilepsy. *Epilepsia*. Advance online publication. doi:10.1111/j.1528-1167.2009.02170.x.

A survey revealed that many serious injuries are not documented as seizure related.

Hale, T. S., Smalley, S. L., Hanada, G., Macion, J., McCracken, J. T., McGough, J. J., et al. (2009). Atypical alpha asymmetry in adults with ADHD. *Neuropsychologia, 47*, 2082–2088.

Increased rightward alpha asymmetry is a developmentally persistent feature of ADHD.

Herrmann, M. J., Mader, K., Schreppel, T., Jacob, C., Heine, M., Boreatti-Hummer, A., et al. (2009). Neural correlates of performance monitoring in adult patients with attention deficit hyperactivity disorder (ADHD). *World Journal of Biological Psychiatry, 19*, 1–8.

Adults with ADHD are characterized by deficits in error processing, which diminish significantly with age.

Irimia, A., Swinney, K. R., & Wikswo, J. P. (2009). Partial independence of bioelectric and biomagnetic fields and its implications for encephalography and cardiography. *Physics Review E: Stat Nonlinear Soft Matter Physics, 79*(5 Pt 1), 051908.

This research group argues that electric potential and the magnetic field find different sources in the brain.

Jones, N. A., Field, T., & Almeida, A. (2009). Right frontal EEG asymmetry and behavioral inhibition in infants of depressed mothers. *Infant Behavioral Development, 32*, 298–304.

Behavioral inhibition for infants exposed to early maternal psychopathology were explored with EEG.

Kislova, O. O., & Rusalova, M. N. (2009). EEG coherence in humans: relationship with success in recognizing emotions in the voice. *Neuroscience & Behavioral Physiology, 39*, 545–552.

EEG coherence correlated with recognition of emotions from voices.

Leung, H., Schindler, K., Chan, A. Y., Lau, A. Y., Leung, K. L., Ng, E. H., et al. (2009). Wavelet-denoising of electroencephalogram and the absolute slope method: A new tool to improve electroencephalographic localization and lateralization. *Clinical Neurophysiology*. Advance online publication. doi:10.1016/j.clinph.2009.05.003

Use of quantitative methods proved superior to conventional classification of seizure EEG in localizing and lateralizing.

Massimini, M., Tononi, G., & Huber, R. (2009). Slow waves, synaptic plasticity and information processing: insights from transcranial magnetic stimulation and high-density EEG experiments *European Journal of Neuroscience, 29*, 1761–1770.

Transcranial magnetic stimulation was used to induce NREM-like slow waves in the cerebral cortex.

Meynier, C., Burle, B., Possamaï, C. A., Vidal, F., & Hasbroucq, T. (2009). Neural inhibition and interhemispheric connections in two-choice reaction time: A Laplacian ERP study. *Psychophysiology, 46*, 726–730.

Motoric inhibition is implemented in a feedforward manner between cortical zones controlling different response alternatives.

Perry, A., & Bentin, S. (2009). Mirror activity in the human brain while observing hand movements: A comparison between EEG desynchronization in the μ-range and previous fMRI results. *Brain Research*. Advance online publication. doi:10.1016/j.brainres.2009.05.059

Mu suppression was larger contralateral to a moving hand and larger when hands grasped different objects in different ways than when movement was repetitive.

Schienle, A., & Schäfer, A. (2009). In search of specificity: Functional MRI in the study of emotional experience. *International Journal of Psychophysiology, 73*, 22–26.

Advocates coregistration of fMRI and EEG to study emotion-specific brain activation.

Schinkel, S., Marwan, N., & Kurths, J. (2009). Brain signal analysis based on recurrences. *Journal of Physiology–Paris*. Advance online publication. doi:10.1016/j.jphysparis.2009.05.007

Another attempt to improve quantitative analysis of human EEG, a complex nonstationary signal.

Schmidt, B., & Hanslmayr, S. (2009). Resting frontal EEG alpha-asymmetry predicts the evaluation of affective musical stimuli. *Neuroscience Letters*. Advance online publication. doi:10.1016/j.neulet.2009.05.068

Resting frontal alpha-asymmetry reflected affective response to music.

Slater, R., Worley, A., Fabrizi, L., Roberts, S., Meek, J., Boyd, S., et al. (2009). Evoked potentials generated by noxious stimulation in the human infant brain. *European Journal of Pain*. Advance online publication. doi:10.1016/j.ejpain.2009.05.005

Authors use ERP to verify that newborn infants are capable of the sensory-discriminative aspects of pain.

Statler, K. D., Scheerlinck, P., Pouliot, W., Hamilton, M., White, H. S., & Dudek, F. E. (2009). A potential model of pediatric posttraumatic epilepsy. *Epilepsy Research*. Advance online publication. doi:10.1016/j.eplepsyres.2009.05.006

Late seizures after TBI are uncommon (in an animal model) but EEG spiking is common.

Thai, N. J., Longe, O., & Rippon, G. (2009). Disconnected brains: What is the role of fMRI in connectivity research? *International Journal of Psychophysiology, 73*, 27–32.

Discusses how fMRI has been used to study cortical connectivity in autistic spectrum disorders and how other techniques such as EEG may address the limitations of fMRI in assessing brain connectivity.

Vardi, Y., Sprecher, E., Gruenwald, I., Yarnitsky, D., Gartman, I., & Granovsky, Y. (2009). The P300 event-related potential technique for libido assessment in women with hypoactive sexual desire disorder. *Journal of Sexual Medicine, 6*, 1688–1695.

The p300 ERP was used for libido assessment in sexually dysfunctional women.

Willand, M., Rudner, R., Olejarczyk, E., Wartak, M., Marciniak, R., Stasiowski, M., et al. (2009). Fractal dimension—A new EEG-based method of assessing the depth of anaesthesia. *Anestezjologia Intensywna Terapia, 40*, 166–171.

Fractality reflects depth of anaesthesia similar to the BIS.

Wu, D., Li, C. Y., & Yao, D. Z. (2009). Scale-free music of the brain. *PLoS One, 4*, e5915.

EEG rhythms of different mental states of the brain were converted to sound.

Zanon, M., Busan, P., Monti, F., Pizzolato, G., & Battaglini, P. P. (2009). Cortical connections between dorsal and ventral visual streams in humans: Evidence by TMS/EEG co-registration. *Brain Topography*. Advance online publication. doi:10.1007/s10548-009-0103-8

This group uses simultaneous recording of EEG during the application of TMS to map brain connectivity.

Zyss, T. (2009). May depression be a form of epilepsy? Some remarks on the bioelectric nature of depression. *Medical Hypotheses*. Advance online publication. doi:10.1016/j.mehy.2009.04.034

The author suggests an overlap of seizure disturbances with depressive disorders.