Today’s piece was prepared by Matt Test, MD, based on a Fox News article, “FDA Approves First Brainwave Test for ADHD” <http://www.foxnews.com/health/2013/07/16/fda-approves-first-brain-wave-test-for-adhd/>

This article addresses the use of an EEG-based device newly approved by the FDA to aid in the diagnosis of Attention Deficit and Hyperactivity Disorder (ADHD) in youth ages 6 to 17. ADHD has received a lot of attention within the medical community and popular media due to its high prevalence and substantial increase in ADHD prescriptions over the past decade.  The FDA approved the use of Neuropsychiatric EEG-Based Assessment Aid (NEBA) System based on research suggesting the ratio of theta to beta (TBR) brain waves to be higher in children and adolescents with ADHD than in those without it.

The article appropriately states that this new technology should not replace standard diagnostic techniques and emphasizes “diagnosis ADHD is a multistep process based on a complete medical and psychiatric exam.” Although the journalist reports that the use of the NEBA system increased the clinical diagnostic accuracy of ADHD, there is no word on the reliability or validity of the test population, clinical design or any reference to the original research citation (which seems undiscoverable in PubMed) to assist a critical consumer in examining the scientific basis of the research or its financial sponsorship. . Further, it seems that only a single study has been conducted that validates this device. Of interest, a 2013 meta-analysis of the value of TBR in EEG-based ADHD diagnosis questions calls into question important aspects of reliability in this approach:

*Arns M et al. A Decade of EEG Theta/Beta Ratio Research in ADHD. J Atten Disord; 2013; 17:374*

Parents seeking simple elegant solutions to complex neurodevelopmental and psychosocial challenges may be unfairly influenced by this article. A more thorough evaluation of its predictive accuracy and a more comprehensive cost/benefit analysis are warranted in order to better understand its clinical utility.

**Resources for parents on ADHD and on NEBA:**

* FDA press release regarding the NEBA System: [www.fda.gov/NewsEvents/Newsroom/PressAnnouncements/ucm360811.htm](http://www.fda.gov/NewsEvents/Newsroom/PressAnnouncements/ucm360811.htm)
* Children and Adults with ADHD (CHADD): [www.chadd.org](http://www.chadd.org)
* National Institute of Mental Health: [www.nimh.nih.gov/health/topics/attention-deficit-hyperactivity-disorder-adhd/index.shtml#part5](http://www.nimh.nih.gov/health/topics/attention-deficit-hyperactivity-disorder-adhd/index.shtml#part5)

And that’s today’s Developmental & Behavioral Pediatrics: IN THE NEWS!