

# NEUROFEEDBACK



**Lynda Thompson, Ph.D.**

**Lynda Thompson, Ph.D.**, Psychologist, has been a teacher, clinical and school psychologist, and has owned learning centres. She has given invited workshops and lectures on five continents on Neurofeedback and Biofeedback. Lynda became Executive Director of The ADD Centre/Biofeedback Institute in Toronto in 1993. Her doctoral dissertation (1979) dealt with hyperactive children treated with methylphenidate. She is co-author with William Sears of *The A.D.D. Book: New Understandings, New Approaches to Parenting Your Child*. She is also the co-author of *Setting up for Clinical Success* and *The Neurofeedback Book* with Michael Thompson, M.D.



**Michael Thompson, M.D.**

**Michael Thompson, M.D.** administers the ADD Centre/Biofeedback Institute and teaches. When formerly practicing medicine he was Associate Professor and head of post-graduate education in Psychiatry, University of Western Ontario, examiner Royal College of Physicians, chairman examinations committee in psychiatry. While Associate Professor, University of Toronto, he was psychiatric consultant to The Hospital for Sick Children's neurology department. Numerous professional publications include; *A Resident's Guide to Psychiatric Education*, and *The Neurofeedback Book: An Introduction to Basic Concepts in Applied*

*Psychophysiology*. He is also the co-author of *Setting up for Clinical Success* with Lynda Thompson, Ph.D.

## **Do you both believe that EEG Biofeedback (neurofeedback) is useful for A.D.D./A.D.H.D.?**

Absolutely! Neurofeedback (another name for EEG biofeedback) gives the individual the ability to recognise for themselves, what their brain is doing, and learn specific skills to improve their performance at school and at work. While working with A.D.H.D. children and adults, we both had an increasing realization that other therapies for children and adults diagnosed with A.D.D./A.D.H.D. are only a partial solution. The simple use of Ritalin and other pharmaceuticals, even combined with behavioural approaches are limited, because the changes they produce are temporary. It is very clear now that A.D.D. is a neurologically based disorder. We know, with certainty, that it is not caused by bad parenting or a lack of opportunities. It is, first of all, strongly genetic in nature, definitely brain-based and very definitely neurological. Moreover a Quantitative EEG (QEEG) assessment helps determine what

In the evolving field of psychology, education, and medicine, Dr. Lynda Thompson and Michael Thompson M.D. introduce the techniques and Infinity technology they use at the ADD clinic in Toronto to provide neurofeedback for the treatment of A.D.D./A.D.H.D. as well as other conditions. The methods they describe in this article have arisen from thousands of hours using biofeedback and neurofeedback with clients from 4 to 65 years of age. The Thompsons also describe the 3rd Edition of "Setting Up for Clinical Success" available on CD, and a new CD that contains scripts. These CD software suites arise from their experience with a wide variety of clients at the ADD Centre and Biofeedback Institute in Toronto, Canada. Their clients range from top executives and athletes just wanting to optimize their performance to children with A.D.H.D., learning disabilities, Asperger's, Autism, Tourette's, to adults with anxiety, depression, head injuries, and so on. This experience led the Thompsons to develop display screens that combine the neurofeedback with biofeedback in a manner that clients find useful and helpful for different purposes. The Biofeedback Foundation of Europe is a non-profit organization located in the Netherlands. For more information on the BFE please visit our website [www.bfe.org](http://www.bfe.org).



part of the brain exactly has to be trained and subsequent in-clinic assessments make it possible to carefully monitor progress. Neurofeedback software includes useful measurements for tracking progress during a session and for looking at trends over time. These include: average microvolt amplitude values (magnitude), % time-over-threshold scores and points.

**Lynda, would you say that EEG biofeedback is sufficient as a single therapeutic approach to treat A.D.D. and A.D.H.D.?**

Well, that's a very important point. Neither Michael, nor I look at neurofeedback, as powerful as it is, as a totally stand-alone proce-

**“Neurofeedback gives useful measurements for defining progress during a session and for looking at trends over time”**

cedure. In the ADD Centre/Biofeedback Institute, we've always looked at it as part of a multi-component treatment process. In the ADD Centre/Biofeedback Institute we see Children or Adults diagnosed with A.D.H.D. (+ Asperger's or + Seizure Disorder); AND, A.D.D. (+ LD) as well as Adolescents & Adults with ruminations, tension, anxiety, + secondary inattention; AND, who wish to Optimize Performance in academics, business and sports. Our clients all require cognitive strategies to assure that training 'generalizes' to their every-day environment. Thought Technology's Infiniti neurofeedback system,



*Demonstration at a BFE workshop*

which we use, has taken into account the goals for training and matched them to the most common bandwidths and BIOFEEDBACK modalities that are used for feedback (training). Adjunctive techniques may involve behavioral work, parenting information, advice on diet, working with the family and, when appropriate, medication. We do, though, build the entire procedure around the neurofeedback therapy.

**Michael, how does the latest computer technology help you?**

The ability to combine neurofeedback and biofeedback with one instrument allows great flexibility in individualizing the feedback. We use many different systems in our clinic, but our clients and staff have come to rely on the Infiniti system for its wonderful display screens for assessment and treatment. The variety of multimedia feedback with DVDs, animations, and music offer just the right type of neurofeedback from simple line graphs and relaxing music to the latest DVDs. The Infiniti is used on many of the computers and flat-panel monitors in our center. This technology helps our clients focus their attention on the screen,

while the Infiniti system measures the different brain wave frequency ranges and also other physiological measures, like respiration and heart rate.

**Lynda, can you tell me a little about the “Setting up for Clinical Success Suite”?**

The Setting up for Clinical Success Suite has been designed for professionals who want to work with various conditions including A.D.D./A.D.H.D. as well as athletes, executives or performers in the arts for improved performance. In this suite, Michael and I introduce some of the key techniques being used in neurofeedback using the Infiniti. The CD provides clinicians a range of displays applicable to young children, adolescents and adults. It also has a Universal screen that the clinician can modify to meet very specific requirements for individual clients. The CD also offers trainers, who are beginning a neurofeedback practice, a sufficient variety of display screens to cover the most common training needs of their clients, and a 150 page book that covers clinically relevant material and detailed

instructions about using the 80 screens provided on the CD.

**Michael, I understand that you were the one behind many of the assessment and training display screens on the “Setting up for Clinical Success Suite (CD)”. Is that right?**

Yes, I have to admit to spending hundreds of hours as there is more than one set of display screens in order to give the practitioner the maximum degrees of freedom in choosing bandwidths for neurofeedback in conjunction with measurements of other variables. It has the five basic components of biofeedback that can be combined with neurofeedback including: peripheral skin temperature, EDR, SEMG, Respiration, Heart Rate and even heart rate variability for biofeedback. These displays are clearly ordered into functional groups that allow the practitioner to do both assessments and feedback for a wide range of clients. We have attempted to take into consideration the common uses for neurofeedback and biofeedback that have been demonstrated by both research and experience. The self-installing CD includes over 40 specialized screens for clinical assessment, stress profiling and to motivate and train clients. A 150-page guide gives practitioners a basic start so that they can begin using the Infiniti system with a range of clients.

**Lynda, what are some of the improvements in the 3rd Edition of “Setting Up for Clinical Success” that you are most pleased with?**

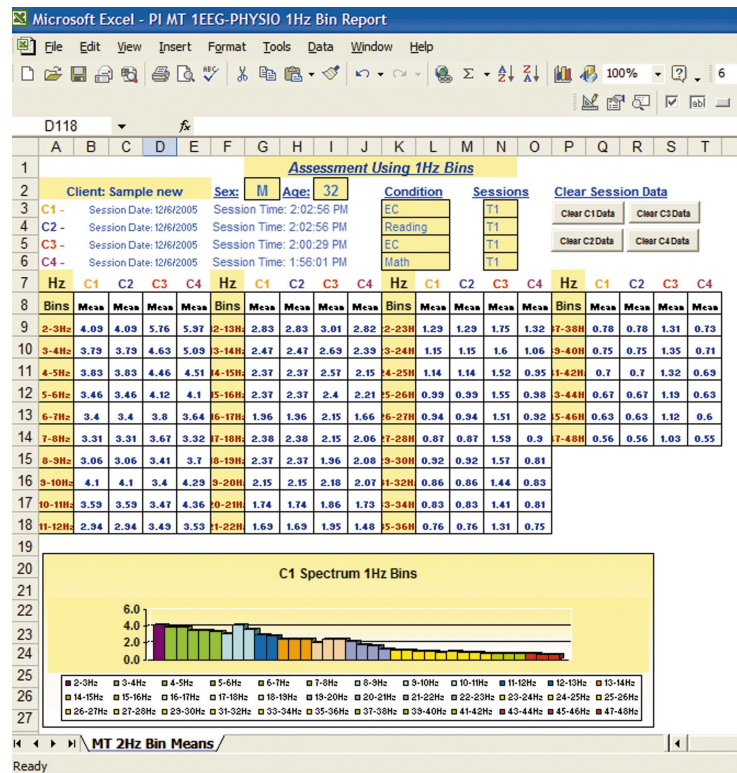
The Suite has been designed to help newcomers to the field to

apply what has been demonstrated by both research and experience. We were very pleased when we received the following message from a clinician who recently purchased the suite, Dr. Thompson's *“Setting Up for Clinical Success, 3rd Ed” is nothing short of brilliant and is very user friendly with a manual that I printed and keep on my desk right next to a worn copy of The Neurofeedback Book. The single and two channel assessments and training screens work very well and provide useful statistics to guide training direction and progress. My final comment as someone still learning more about neurofeedback is that we should be sure to train and assess within our level of competence, so as to promote our field well, and of course to “do no harm” to our clients. Quoting a guiding pearl of wisdom from Dr. Lynda Thompson, “Promise less and deliver more.”*

A second CD containing **12 scripts** for different symptoms or syndromes

including A.D.H.D. (& Tourette's), Asperger's, Dyslexia, Anxiety, Depression, Seizures, and Optimal Performance has been produced to offer professionals **a method for entering this field rapidly**. The instruction screens at the beginning of each script describe the goal for feedback, common electrode placements and enhance and inhibit frequencies, biofeedback variables and briefly give reasons for each suggested feedback approach. The screens used in each script are those found most useful by the staff at our centre.

***“Setting Up for Clinical Success, 3rd Ed is nothing short of brilliant and is very user friendly with a manual that I printed and keep on my desk.”***





# Improve Your Health & Performance™

The ADD Centre/Biofeedback Institute is the largest centre in Canada using EEG Biofeedback for ADD, with over 100 hours of training provided each week. Clients include University professors, professionals, and senior executives who come to optimize performance. The Centre also works with patients in the treatment of epilepsy, Asperger's Syndrome, learning disabilities, Tourette's syndrome, closed head injury, autism, mood disorders, tension, and anxiety. The approach is one of education, training, and learning.

The ADD Centre/Biofeedback Institute began in the fall of 1992 and currently operates with a Director, CEO, and 24 part-time staff with university degrees (many with advanced degrees - Masters and Doctorate levels) or professional qualifications in education and health related fields.



During the European Biofeedback Conference on February 19 to February 23, 2008, in Salzburg, Austria. Dr. Lynda Thompson and Michael Thompson M.D., will instruct a workshop on Neurofeedback. Doctors and other Health Professionals are invited to join the workshop. Further information available at [www.bfe.org/meeting.htm](http://www.bfe.org/meeting.htm).



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