

How Athletes Can Consistently Find Their "Zone of Excellence"

by Wes Sime, Thomas W. Allen, and Catalina Fazzano

As sport psychologists, we are always seeking new methods of developing concentration, confidence and composure among performers who need graceful, efficient (yet powerful) movement patterns. One of the newest technological advances, neurofeedback, could be a very important training tool, comparable to weight training and aerobic conditioning for the body. In essence, neurofeedback is like taking the brain to the weight room to strengthen its resilience to distraction and the endurance of the athlete's concentration on a given performance task. Our experience with neurofeedback has created a remarkable opportunity to measure and display objective indicators of intense visualization that an athlete may be doing in preparation for competition. Many competitors have great difficulty maintaining high levels of confidence in themselves, partly because they have such fragmented visual images of their performance. Multiple distractions before competition can break down attentional focus and leave the athlete vulnerable to negative self-talk and funky thinking.

There are very few user-friendly neurofeedback systems available for use with athletes in the competitive environment. Similarly, the protocols for challenging an athlete's ability to handle the pressure of competition are not usually accessible to coaches, athletes and sport psychologists. We have discovered that it is possible to have portable equipment with simplistic training techniques on a laptop computer for use in a field setting near practice and competition. Our case examples feature performance training in diving,

Neurofeedback for ADD/HD in Academic and Music Performance Carlos is a 9-year-old male with a history of academic and behavioral difficulties and a diagnosis of AD/HD. He was failing academically and had been lying to his parents about it. The mother had been told by a neurologist that she should resign herself to the fact that her son would never be a brain surgeon. His parents were opposed to the use of Ritalin and were seeking an alternative treatment. Carlos had extensive clinical training in neurofeedback over several months to deal with the academic issues in his ADD/HD. The results were very positive. Not long after beginning the training, his teacher reported that he was finishing all his schoolwork, and had much more ability to concentrate in the classroom. At an 8 week follow up beyond his clinical training, Carlos continued to do well; his grades were mostly A's and B's. Ironically, while

Carlos' parents provided the training for academic reasons only, he had simultaneously learned to read music and to play several tunes on the piano while he was undergoing the neurofeedback training. Previously, at least three music teachers had given up on trying to teach him to play the piano. It is interesting to note that while clients may be seen primarily for either performance or for academic (ADD/HD) symptoms they have reported independently that their training effects spill over to the one or another outcome not specifically addressed in treatment. In conclusion, we have found in our respective experience that the essential contribution of neurofeedback, as demonstrated with the Peak Achievement Trainer*, is to give the client the opportunity to become more aware of the internal processes associated with success versus failure. In effect, this training enriches the discovery process for novice as well as experienced performers. It may, in fact, be the closest one can get to seeing through the window into the mind during practice or competition, while also shaping the thought processes to allow for unimpeded performance excellence. In essence, we want to zoom in the athlete's focus on their efforts, while eliminating intrusion from distractions, to allow the client to carry out a complex competitive task flawlessly.

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Dr. Thomas W. Allen is an Associate Professor of Education and a Licensed Psychologist at Washington University in St. Louis. In recent years he has become very interested in neurofeedback as it relates to performance enhancement with various sports including golf and basketball. His research interest lies in finding the optimum level of concentration associated with success in any performance.

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