EEG Biofeedback Training for Tourette Syndrome

Perhaps the best description of Tourette syndrome is by a person who has it, Adam Ward Seligman: "Tourette syndrome is considered a very common genetic behavioral disorder characterized by a lack of inhibition. The inhibition may be around movement, resulting in tics or twitches. It may be a problem inhibiting speech or sound, resulting in vocalizations. It may be a breakdown in thought or action resulting in obsessive compulsive disorder. It may be a breakdown in controlling one's concentration, resulting in attention deficit disorder. It may even be a problem controlling emotion." (Adam Seligman, Don't Think About Monkeys).

By definition, Tourette syndrome is a matter of motor and vocal tics. The diagnostic criteria are such that only severe cases meet them; hence the public perception that the condition is rare and severe. In fact, the symptoms are more varied, and they range broadly in severity. Looked at in this more inclusive sense, the condition is quite common. Whereas the original choice of diagnostic criteria was entirely arbitrary, the emerging, more comprehensive view of Tourette syndrome comes from a better understanding of the underlying genetics. Parents who hear "Tourette syndrome" mentioned in connection with their child need not immediately draw the worst inferences.

Over the past two years, we have observed considerable clinical evidence for the effectiveness of EEG biofeedback training as an adjunct modality for remediating the symptoms of Tourette syndrome. Rather than focusing on the condition as a whole, it is preferable to focus on the individual classes of symptoms. For example, a number of symptoms are highly correlated with Tourette Syndrome. These include attention deficits, anxiety and depression, oppositional-defiant behavior, conduct disorder, obessive- compulsive behavior, episodic dyscontrol, hypersexuality and addictive behavior. We appear to impact many of these symptoms irrespective of whether they are associated with Tourette Syndrome. This includes particularly the attention deficits, anxiety and depression. The training can also be helpful for oppositional- defiant behavior, for conduct disorder, and for obsessive- compulsive behavior. Little data exists to date with respect to addictive behavior or sexual behavior as it is affected by EEG training of Tourette subjects. With regard to tics, our experience to date is that if the tic behavior is of recent onset there is a higher probability of achieving full remediation. This is also true of tics induced by medication, such as that prescribed for hyperactivity and attention deficits (such as Ritalin (R), dexedrine, and Cylert (R) [pemoline]). In adults with decades of history with tics, full remediation is much less likely.

Because of the multiplicity of symptoms, it is often difficult to establish one EEG training protocol which addresses all of them. For example, a protocol selected to deal with attention deficits may not be appropriate for obsessive-compulsive behavior. Under these circumstances, the most significant and troublesome symptoms need to be addressed first in training, leaving minor ones until later. The situation is similar to that which prevails in the medical management of this condition, where a number of medications may be required to address all of the symptoms.

Whereas in general it is our experience that the effect of the training is cumulative and permanent, it has been observed that some Touretters may backslide somewhat between training sessions. In such cases, the training may have to be more frequent, particularly in the early going (perhaps three times per week), and the client may benefit from occasional booster sessions even after the bulk of the training is completed. In the extreme case, children may even benefit from a continuation of EEG training sessions on a regular schedule. Such continuing training appears to be necessary in only a small fraction of cases.

Most of the clients referred for Tourette syndrome are under pharmacological management for the condition. As the training proceeds, downward adjustment of the medication(s) is usually necessary, so the person should be in the care of a supportive physician.

http://www.eegspectrum.com/Applications/Tourette/TouretteIntro/