

## A BRAVE NEW WORLD: TSA Looks at New Technologies

**R**apid developments in technology are having an impact on every aspect of our lives. Members of the TSA family know that new technologies are changing everything from the way we communicate and educate to the way we practice medicine — and the changes continue as new technologies and new applications develop. For the following article, we asked experts in a variety of fields to comment on what is happening right now and what may affect us all in the very near future.

### A Picture is Worth 1,000 Words

A few years ago doctors relied on the parents of young children with TS to describe symptoms, since tics wax and wane and don't necessarily appear on command in a doctor's office. Easy access to inexpensive video equipment has enabled many more physicians to observe a patient's tics. But home video is only one kind of image with important applications in the understanding of TS. Neuroimaging has a great deal of potential. In many ways the brain is still a mystery and we have much to learn about how it functions in general and about TS specifically.

Jonathan Mink, M.D., Ph.D., Co-Chair of the TSA Scientific Advisory Board, looks forward to the future of neuroimaging and the promise offered in new and improving imaging techniques. "The main innovation is likely to be in the realm of neuroimaging," he said. "We have already seen substantial progress in non-invasive imaging techniques to look at brain structure and function without radiation exposure. These are likely to improve over the next few years. The great advances in computer processing speed have also made methods like magnetoencephalography (MEG) more accessible to TS researchers."

### Treatment without Medication?

Biofeedback may be one of the answers to the desire for treatment without the side effects of medications. Dr. Yoko Nagai of the Department of Psychology at the University of Essex, is exploring the potential of biofeedback as a treatment for TS tics. "Our preliminary (basic) study to investigate a short effect of biofeedback (seven minutes) already has shown reduction of tics in several patients. The treatment consists of a systemic education and training for the patients to obtain the skills of biofeedback so that they can apply what they learned in their daily life. In my previous study of biofeedback treatment for epilepsy, we confirmed the long time effects of biofeedback which last more than three years once a patient acquired the skills. This is what I would like to repeat with the patients with Tourette Syndrome."

But what is it and how does it work? Biofeedback trains individuals to be aware

of — and to increase conscious control of — certain automatic bodily processes, i.e., heart rate, brain waves and galvanic skin responses (related to sweating). In the case of TS, Dr. Nagai's TS studies focus on the frequency of tics. When people were taught the biofeedback technique they were relaxed and experience significantly fewer tics.

It's not about simply relaxing and kicking back, although many people with TS report an increase of tics under stress and less when they are at ease. Biofeedback is a specific kind of deep relaxation that comes from awareness and control. It takes training and effort.

"In biofeedback training, monitoring probes are taped to the surface of the fingers and an emotion-related activity is displayed on a computer screen with an accompanying sound track. This display may take the form of a cartoon story, through which you move

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## Monte Redman to be Honored at Annual TSA Dinner Dance in NY *His Busy Term as TSA Chair Comes to an End*



Monte Redman will complete his term as Chair of the TSA Board in November, but he will continue to donate his time and energy as a board member. Mr. Redman joined the TSA Board in 1995, serving as Treasurer and First Vice Chair before becoming the Chair in 2004. Mr. Redman oversaw a period of tremendous growth for TSA and a long list of important accomplishments.

Mr. Redman's term as Chair will be celebrated at the Annual TSA Dinner Dance. This very special event will be held at the historic Rainbow Room on

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