



tourette syndrome association, inc.

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BASAL GANGLIA, TOURETTE SYNDROME AND YOU

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Dear Friend of TS Research,

“Basal Ganglia” – it’s not a term you are likely to bandy about during your next bridge game. But it is profoundly important to scientists probing the secrets of the puzzling disorder known as Tourette Syndrome. In short, the basal ganglia of the brain are structures likely to house the specific mechanism that triggers the common motor symptoms of TS.

Recently, eminent neuroscientists from around the world gathered at a Triennial Meeting in the Netherlands to share the latest findings from their studies of the basal ganglia. The results they presented are even now being studied by neuroscientists at US universities and other research centers abroad. Follow-up meetings and scientific articles will further disseminate this invaluable knowledge.

We are extremely pleased to see that TSA funded investigators reported on their very important findings.

Because the information presented at this meeting is so significant, we believe you will find interest in a brief overview of three of the more striking presentations.

Yoland Smith, Ph.D. and colleagues at the Yerkes Primate National Research Center and Emory University in Atlanta. They investigated possible mechanisms by which deep brain stimulation may affect symptoms of TS. This work revealed how experimental stimulation in the thalamus affects the brain circuits thought to trigger tics.

Izhar Bar-Gad, Ph.D. and colleagues at Bar-Ilan University, Israel. Their presentation centered on Tourette-like motor tics that followed certain chemical injections that block inhibitory movements. They studied how changes in basal ganglia function can cause tics.

Joshua Berke, Ph.D. and colleagues at University of Michigan. They investigated properties of striatal interneurons which are found to decrease in number in the brains of people with TS – and studied how these neurons convey information contributing to control of behavior.

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While these investigators use widely varying experimental approaches to TS neuroscience, they and many fellow researchers world-wide have the following in common:

1. They all have the potential to both enhance our understanding of and develop better treatments for Tourette Syndrome.
2. Their ground-breaking work is being funded by your Association.

Even as you read this letter, top-notch scientists around the world are zeroing in on the basic causes of TS. Their discoveries may blaze the trail to more effective treatments as well as the eventual cure for this complex disorder.

But a serious obstacle looms along this path to improved treatments. We must face up to the fact that government funding of all biomedical research has been reduced. This shortfall in National Institutes of Health (NIH) funding poses a direct threat to those very studies the TSA has funded for years in order to help investigators gather promising pilot data and enhance their chances for major NIH funding. Indeed, recently very promising NIH applications from TS scientists, studies that at any other time would have been funded by the NIH, have been rejected for lack of funds.

To counter this threat to progress, we must turn to you - the faithful donors who have fueled so much of our broad-based and highly effective 'seeding the field' research program. As long as federal research funding remains inadequate, we must look to you and your contributions to fill the gap.

While you were not physically present at the Basal Ganglia meeting in the Netherlands, through your past support you have had a direct influence on the advances announced there. At this critical juncture, your research backing can have a truly decisive impact on the work of the finest TS scientists, allowing them to press ahead to continue to unravel the underlying mysteries surrounding this disorder.

When determining the level of your research contribution this year, please remember that only we can directly influence the extent and success of the TS research effort.

Gratefully Yours,

Peter J. Hollenbeck, Ph. D., Co-Chair
TSA Scientific Advisory Board

Jonathan W. Mink, M.D., Ph.D., Co-Chair
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