



Michael Schwarzschild MD, PhD

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After obtaining his undergraduate training in biochemistry at Princeton University, Michael Schwarzschild pursued medical and graduate neuroscience studies at Harvard Medical School. There he wrote his PhD thesis with Dr. Richard Zigmond on the neurochemistry of tyrosine hydroxylase, the enzyme controlling dopamine biosynthesis. He undertook neurology residency and then Parkinson's disease fellowship training at Massachusetts General Hospital (MGH) under the guidance of Drs. Anne Young and John Growdon.

During a postdoctoral research fellowship with Dr. Steven Hyman in the mid-90s, he developed expertise in gene regulation and cell death pathways in the dopamine-rich brain region most affected in PD.

Since 1996 Dr. Schwarzschild has directed the Molecular Neurobiology Laboratory at MGH, focusing on the role of three purines (adenosine, caffeine and urate) in animal models of PD. Together with Dr. Jiang-Fan Chen he discovered the neuroprotective properties of adenosine A_{2A} receptor blockers (including caffeine) in mouse models of the disease. His research team then provided evidence that these drugs may help prevent dyskinesia, a side effect of standard antiparkinsonian therapy. His leadership of a series of international research conferences in 2002 and 2006 on A_{2A} receptors in Parkinson's has helped translate our understanding of this drug target into an emerging new therapy for Parkinson's patients.

Most recently, through a fruitful interdisciplinary collaboration with epidemiologist Dr. Alberto Ascherio of the Harvard School of Public Health, Dr. Schwarzschild and his colleagues have discovered an unprecedented clue to why disease progression is mild in some and aggressive in others. In partnership with the Parkinson Study Group (PSG) they showed that the purine antioxidant urate can serve as a predictor of not only the risk of PD, but also the rate at which it progresses. Their work identifies urate as a molecular biomarker of PD progression rate, and as a candidate neuroprotective agent too. The convergent epidemiological and clinical data have led to development of a major national clinical trial for which he serves as PI.

Dr. Schwarzschild has been the recipient of a George C. Cotzias Fellowship from the American Parkinson's Disease Association and a Paul Beeson Physician Faculty Scholar Award for Aging Research. Since 1997 he has been an active clinical investigator in disease progression trials of the PSG. He is currently an Associate Professor of Neurology at Harvard Medical School and a staff physician on the Neurology Service at MGH where he works with Parkinson's patients and their families in his weekly movement disorders clinic.