

Title: Nicotine Treatment of Impulsivity in Parkinson's Disease: A Pilot Study

Principal Investigator:

James T. Boyd, MD
The University of Vermont
Department of Neurology

Mentors:

Paul A. Newhouse, MD
Alexandra Potter, PhD
The University of Vermont
Clinical Neuroscience Research Unit and
Brain Imaging Program

Abstract: Impulsivity is an increasingly recognized non-motor complication of anti-Parkinsonian therapies, as part of the spectrum of "Impulse Control Disorders". The specific aims of this pilot clinical trial will be to examine whether chronic nicotinic stimulation using a transdermal nicotine patch will improve both laboratory and clinical measures of impulsive and compulsive responding in Parkinson's Disease (PD) patients. Specifically, this study uses a theoretical framework from cognitive psychology examining both impulsivity and compulsivity as cognitive components which may underlie known executive function deficits in PD. If successful, this project will lead to larger-scale studies with nicotine and/or novel nicotinic agonists under development and may offer a new strategy for both prevention and/or treatment of impulsive and compulsive behavior in PD. Such a strategy may lead to significant improvements in quality of life for patients and caregivers.

Specific Aims: To examine whether chronic nicotinic stimulation using a (7 mg) transdermal nicotine patch will improve both laboratory and clinical measures of impulsive and compulsive responding in Parkinson's Disease (PD) patients.

Hypothesis: Transdermal nicotine treatment for 3 weeks will specifically improve impulsive and compulsive responding in patients with PD as measured by improvements in laboratory measures of impulsivity (Stop Signal Task) and compulsivity (Set Shifting Task) responding as well as improvements on clinical measures of impaired behavior without worsening motor symptoms.