

**Abstract Submission**  
**Society for Research on Nicotine and Tobacco**  
**13th Annual Meeting**  
**February 21-24, 2007**  
**The Hilton Austin Hotel**  
**Austin, Texas**

**Corresponding Author Information**

**Name:** Michael Cummings  
**Degree:** PhD, MPH  
**Job Title:** Research Scientist  
**Institution:** Roswell Park Cancer Institute  
**Department:** Health Behavior  
**Address:** Elm and Carlton Streets  
**Address2:**  
**City:** Buffalo  
**State/Province (USA and Canada):** New York  
**State/Province (Other than USA or Canada):**  
**Zip/PostalCode:** 14263  
**Country:** United States  
**Telephone Number:** 716-845-8456  
**Fax Number:** 716-845-8487  
**Email Address:** michael.cummings@roswellpark.org  
**SRNT Member Status:** Y

**SRNT Call for Abstracts Symposium Summary Abstract Submission**

NOTE: All areas marked with this symbol \* are required

**Topic\***

All abstracts are reviewed within their selected topic area. Please choose the topic which best represents your abstract submission. If the Topic chosen is "Other," please define it in the field to the right (below).

Human Biobehavioral Research

**Keyword Index\***

A keyword index will be provided in the 2006 Annual Meeting Proceedings. Please select two keywords that best describe your abstract presentation.

**Keyword Index 1:** Nicotine **Keyword Index 2:** Dependence

**Overall Symposium Abstract Submission (Summary Abstract)\* (a summary and description of the entire symposium)**

## Abstract

Your submission is not to exceed 2,200 characters (including spaces).

All abstracts must be prepared in plain text, in English with no embedded symbols or formatting characters including "Smart Formatting" as used by some word processing programs. Electronic submissions may not include charts, graphs, tables or references.

### Symposium Submissions:

Prepare a summary abstract of the symposium as a whole. Provide a concise description of your proposed symposium in narrative form. For the summary abstract, list the names and affiliations for the symposium chair and the discussant in the areas provided. In addition, prepare one abstract (less than 2,200 characters, including spaces) for each presenter's paper including an abstract for the discussant as the final presenter. These will be submitted as individual abstracts with the "add supporting abstract" button from the main page. Most symposia include no more than four speakers, plus one discussant. However, the option for up to five individual abstracts is provided. Space is provided to enter presenter/corresponding author information in each supporting abstract.

[See Sample Abstract](#)

### Abstract Title\*

USE ALL  
CAPITAL  
LETTERS

FACTORS THAT IMPACT NICOTINE BIOAVAILABILITY: FINDINGS FROM THE  
TRANSDISCIPLINARY TOBACCO USE RESEARCH CENTERS PROGRAM

### Authors and Affiliations\*

Include all presenting authors on all of the individual presentations as well as the chair and the discussant (noted with an asterisk)

Presenting Authors: Rachel F. Tyndale, PhD, University of Toronto (Canada) Sharon Murphy, PhD, University of Minnesota (USA) Cliff Watson, PhD, Centers for Disease Control and Prevention (USA) David Hammond, PhD, University of Waterloo, (Canada) Discussant: Neal Benowitz, MD, University of California, San Francisco (USA) Organizer: K. Michael Cummings, PhD MPH\*, Roswell Park Cancer Institute (USA)

### Abstract Body\*

Nicotine is the major pharmacologically active alkaloid in tobacco and the reason main reason why many tobacco users struggle to quit. Nicotine creates dependence by activating the dopaminergic reward system in the brain. Physiologic withdrawal symptoms that occur when nicotine is no longer administered reinforce continued nicotine administration to avoid withdrawal. Extrapolating from this evidence has led to the development of tobacco dependence pharmacotherapy based upon the concept of replacing and/or blocking the effects of nicotine in the brain. Evidence also suggests that contemporary tobacco products are carefully engineered to deliver finely graded doses of nicotine to the tobacco user addicted. While the central role of nicotine in tobacco use behavior is well accepted what remains unknown is why there is such wide variation in how tobacco users respond to different tobacco products and stop medications. This symposium includes four papers from the NIH supported Transdisciplinary Tobacco Use Research Centers Program and their collaborators that examine various factors help explain individual variation in nicotine bioavailability. The four papers included in this session will provide insight about how agent (i.e., cigarette design, stop smoking medications) and host (genetic and demographic) factors interact to influence the bioavailability of nicotine and impact smoking behavior and response to pharmacologic treatments for nicotine dependence. The paper by Rachel Tyndale will explore the role of genetic variation in nicotine metabolizing enzymes (CYP2A6 and CYP2B6) on bioavailability of nicotine and smoking cessation treatment outcomes. The paper by Sharon Murphy will present data on the role of glucuronidation in nicotine metabolism. Cliff Watson will present data from the CDC's laboratory effort to measure free nicotine levels in popular cigarette brands. Finally, Dave Hammond will present the results of a study comparing different cigarette machine testing regimens in terms of their ability to predict cotinine levels measured in adult smokers. Neal Benowitz, will serve as a discussant to the session.

### Funding\*

Please include all sources of funding. If no funding was received, enter the text "No Funding." Abstracts cannot be submitted without funding information.

List of Authors

Please list each author for inclusion in the Annual Meeting Proceedings Author Index, **including the Corresponding Author** (list each one separately). Please type **Last Name, First Name, MI** (*Please omit titles and degrees - name ONLY*).

**Example:** Fox, Sam A.

- |                         |                       |
|-------------------------|-----------------------|
| 1. Cummings, K. Michael | 2. Tyndale, Rachel, F |
| 3. Murphy, Sharon       | 4. Watson, Cliff      |
| 5. Hammond, David       | 6. Benowitz, Neal     |
| 7.                      | 8.                    |
| 9.                      | 10.                   |

### Chair(s)

Refers to the organizer of the symposium. List the name and affiliation of the symposium chair(s) (e.g., Jane A. Smith, Ph.D., Department of Psychology, University of Tennessee, Nashville, TN).

K. Michael Cummings, PhD MPH\*, Roswell Park Cancer Institute, Buffalo, New York (USA)

### Discussant(s)

List the name and affiliation of the symposium discussant(s) (e.g., Jane A. Smith, Ph.D., Department of Psychology, University of Tennessee, Nashville, TN).

Neal Benowitz, MD, University of California, San Francisco, San Francisco, California (USA)