



Back to Annual Meeting



Back to Annual Meeting

APHA Scientific Session and Event Listing

Race and ethnicity as potential predictors of total TCDD TEQ serum levels in the general U.S. population

Laura L. Ferriby, MS, E. Spencer Williams, PhD, Mark Harris, PhD, Kenneth Unice, MS, and Paul Scott, BS.
ChemRisk, Inc., 10375 Richmond Ave., Suite 350, Houston, TX 77042, 713 974 6200, lferriby@chemrisk.com

Background/Objectives: Very little is known about the influence race and ethnicity may have on concentrations of PCDD/Fs and dioxin-like PCBs in human serum and the ability of these characteristics to predict total TCDD TEQ levels. This study examines the effect of race and ethnicity on PCDD/F and PCB body burden while taking into account gender and age. Population based estimates of total TCDD TEQ for various ethnic/racial groups are provided for use in evaluating individuals and populations exposed to these chemicals. **Methods:** PCDD/F and PCB serum concentration data collected as part of the 2001-2002 National Health and Nutrition Examination Survey were obtained from the National Center for Health Statistics. Total TCDD TEQ concentrations for individual subjects were calculated by summing the product of each congener's concentration and its associated TEF. Differences in mean levels were examined by race/ethnicity, age and gender. **Results:** Initial analyses indicated that significant differences may exist between non-Hispanic black and white males and Hispanic males as well as between non-Hispanic black and white females and Hispanic females. Interestingly, these differences are not as apparent when each group is stratified by age, indicating that age confounds the association between race/ethnicity and total TCDD TEQ specifically for the younger age groups. **Conclusions:** While race/ethnicity does not appear to be as strong of a predictor of total TCDD TEQ as age, the inclusion of this biologically significant variable in determining referent levels of PCDD/Fs and dioxin-like PCBs is necessary to calculate accurate statistics with which to compare exposed individuals.

Learning Objectives: At the conclusion of the session, the participant in this session will be able to

- Define referent PCDD/F and dioxin-like PCB levels in the general U.S. population by race/ethnicity, age and gender.
- Understand the impact various demographic characteristics have on serum concentrations of PCDD/Fs and dioxin-like PCBs.
- Evaluate PCDD/F and dioxin-like biomonitoring data of individuals exposed or potentially exposed to these chemicals.

Keywords: Environmental Health, Ethnicity

Presenting author's disclosure statement:

Not Answered

[Environmental and Social Epidemiology Poster Session](#)

[The 134th Annual Meeting & Exposition \(November 4-8, 2006\) of APHA](#)