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## Areas of Expertise

- Occupational Safety & Health
- Product Safety Evaluation
- Human Health Risk Assessment
- Applied Toxicology
- Pesticide Toxicology
- Medical Device Biocompatibility
- Extractables & Leachables

## Services

- Toxicology & Risk Sciences
- Exposure & Risk Assessment
- Occupational Health & Safety
- Product Safety Assessment
- California Proposition 65
- Product Liability
- Food & Beverages
- Food Packaging
- Toxicological Risk Assessment (TRA)
- Nonclinical Safety Assessment Support
- Occupational Exposure Limit
- Biocompatibility Support
- Extractables & Leachables

## Education

- M.E.M., Environmental Toxicology and Risk Assessment, Duke University
- B.S., Chemistry and Environmental Science, Bradley University
- Diplomate of the American Board of Toxicology

## Michael K. Peterson, M.E.M., DABT

### Principal

Mr. Peterson is a principal at Gradient with more than 20 years of experience specializing in human health risk assessment of cancer and noncancer endpoints, critical analysis of human and animal toxicology and epidemiology studies, and multimedia assessment of exposure to chemicals. He has applied these skills primarily in the areas of product safety, nonclinical safety evaluations of medical devices, occupational safety and health, and risk assessment. He has extensive experience evaluating the toxicity of asbestos and other fibers. He also has experience evaluating exposures to chemicals in a variety of different consumer products and medical devices, and developing toxicity guidelines for those chemicals. Many of his projects have involved preparing risk communication materials to effectively convey chemical exposure risks in appropriate context for a variety of stakeholders. He is an appointed member of the Washington Governor's Industrial Safety and Health Advisory Board, the president of the Occupational and Public Health Specialty Section of the Society of Toxicology, and the chairperson of the Washington Agriculture Safety Day Committee. While earning a Masters of Environmental Management degree at Duke University, Mr. Peterson researched the oral bioavailability of polycyclic aromatic hydrocarbons from soil.

### Selected Projects

**Proposition 65 Surrogate Safe Harbor Limit (SHL) Derivation:** Developed surrogate Proposition 65 SHLs for a number of listed chemicals without official regulatory values. SHLs were developed using a variety of techniques, including literature reviews, conversion of guideline values from other safety and health organizations, and benchmark dose modeling of primary toxicology studies. The resulting SHLs were used by the client to determine whether or not products were in compliance with Proposition 65.

**Talc Product Weight-of-Evidence Evaluation:** Conducted a weight-of-evidence causal evaluation and risk assessment for exposure cosmetic talc and any potential impurities in consumer products. Synthesized data from animal, epidemiology, and mechanistic studies and determined whether the evidence supported a causal association between exposure to talc and mesothelioma, lung cancer, and ovarian cancer.

**Synthetic Turf Recycled Rubber Risk Assessment and Science Communication:** Prepared a multipathway human health risk assessment related to potential chemical exposures for athletes and spectators using synthetic turf fields. The results of the assessment were used to prepare risk science communication pieces to present the results to interested stakeholders.

**Asbestos-Containing Product Evaluation:** Conducted a weight-of-evidence causal evaluation and risk assessment for exposure to asbestos from an electrical product. Evaluated the industrial hygiene, toxicological, and epidemiological data related to asbestos and determined whether or not potential health effects would be expected.

**Toxicological Risk Assessment (TRA) of Extractables and Leachables from a Permanent Implant:** Conducted TRA for compounds identified in extracts from a permanent implant. In accordance with ISO 10993-17, ICH M7, and US FDA guidance, identified toxicological data for relevant endpoints and derived chemical- and device-specific safety margins. For data-poor compounds, conducted weight-of-evidence analysis and applied read-across data where appropriate.

### Selected Publications

**Peterson, MK;** Mohar, I; Lam, T; Cook, TJ; Lynch, HN; Engel, AM. 2019. "Critical review of the evidence for a causal association between exposure to asbestos and esophageal cancer." *Crit. Rev. Toxicol.* 49:597-613.

**Peterson, MK;** Lemay, JC; Pacheco Shubin, S; Prueitt, RL. 2018. "Comprehensive multipathway risk assessment of chemicals associated with recycled ("crumb") rubber in synthetic turf fields." *Environ. Res.* 160:256-268.

Goodman, JE; **Peterson, MK;** Hixon, ML; Pacheco Shubin, S. 2017. "Derivation of an oral maximum allowable dose level for bisphenol A." *Regul. Toxicol. Pharmacol.* 86:312-318.