

APPENDIX A

List of Panelists

Panelist Biographical Sketches

**Agency for Toxic Substances and Disease Registry
Division of Health Assessment and Consultation**

Hair Analysis: Exploring the State of the Science

Panel Participants

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Hair Analysis: Exploring the State of the Science

The Panel

Robert Baratz

Dr. Baratz is the founder of two corporations in the medical device area. He was also the associate medical director for Harbor Health Services in Boston. He currently provides consulting services for clients such as the U.S. Food and Drug Administration, ABC News, CBS News, NBC News, American Dental Association, and the states of Iowa, California, Colorado, and Minnesota. His area of research interest is the development and formation of the skin and its appendages, including hair. He is currently working with the state of Wisconsin regarding chelation therapy and use of hair analyses. Dr. Baratz is the national spokesperson for the American Dental Association regarding alleged mercury toxicity. He received his A.B. in biology and his M.D. from Boston University. Dr. Baratz received his Ph.D. in cell biology and anatomy and his D.D.S. from Northwestern University. He has published more than 150 papers.

Thomas Clarkson

Dr. Clarkson has been a professor at the University of Rochester for over 20 years, where much of his research has involved conducting epidemiologic-toxicologic studies on populations exposed to mercury and its compounds and studying the pharmacokinetics of mercury in animals and humans. He has studied the toxicology of hair analysis, including coauthoring two studies on the subject, entitled “The biological monitoring of mercury in the Seychelles study” and “Monitoring methyl mercury during pregnancy: maternal hair predicts fetal brain exposure.” Dr. Clarkson served as a panelist at an NIEHS Workshop on Assessment of Mercury Exposure. He has also co-edited various books, including *Biological Monitoring of Toxic Metals* and *Advances in Mercury Toxicology*. Dr. Clarkson is a member of the Society of Toxicology and the Society for Trace Element Research in Humans. He serves as a reviewer for numerous national and international scientific journals, such as *Journal of Applied Toxicology*, *British Journal of Industrial Medicine*, and *New England Journal of Medicine*. Dr. Clarkson received his B.S. in chemistry and his Ph.D. in biochemistry from the University of Manchester.

Michael Greenberg

Dr. Greenberg is a professor and toxicology fellowship program director at the Medical College of Pennsylvania–Hahnemann School of Medicine. He also serves as chief of the Division of Occupational, Environmental and Hyperbaric Emergency Medicine at the Allegheny University of the Health Services School of Medicine (Department of Emergency Medicine). In addition, Dr. Greenberg is a senior consultant for the Philadelphia Poison Control Center. He has performed more than 1,000 exposure assessments and has extensive experience both interpreting and clinically utilizing hair testing in forensic, occupational, and environmental toxicology venues. Dr. Greenberg has published more than 100 articles and abstracts in occupational and environmental toxicology. He also is the editor in chief of the book *Occupational, Industrial and Environmental Toxicology*, published by Mosby, St Louis, Missouri. Dr. Greenberg received his B.A. and M.A. in biology from Hofstra University, his M.D. from Temple University School of Medicine, and his M.P.H. in occupational medicine from the Medical College of Wisconsin. He is board certified in Occupational/Environmental Medicine, Medical Toxicology, and Emergency Medicine.

Michael Kosnett

Dr. Kosnett is an associate clinical professor at the University of Colorado Health Sciences Center. His main specialty area is occupational and environmental toxicology. One of his research areas is the application of laboratory data to clinical epidemiology and clinical assessment in humans exposed to heavy metals, particularly arsenic. He has been regularly involved in reviewing and utilizing quantitative information on human exposures to toxic substances and has designed and implemented biological monitoring programs. He has served as a consultant to ATSDR at the Bunker Hill Superfund site in Idaho, and acts as a toxicology consultant to the California Department of Health Services, Occupational Lead Poisoning Prevention Program. He also has experience in assessing the impact of toxic substances on children. Dr. Kosnett was a member of the National Research Council's (NRC's) Subcommittee on Arsenic in Drinking Water and testified on the subcommittee's behalf to a U.S. Senate Committee on Environment and Public Health. He contributed to sections of the 1999 NRC report *Arsenic in Drinking Water* which discussed the use of hair analysis in assessing exposures to arsenic in drinking water. He also has served on the Committee on Toxicology of the NRC, and as vice president of the American College of Medical Toxicology. Dr. Kosnett recently gave the keynote address at the 2001 ATSDR Partners in Public Health Meeting, entitled "Elemental Mercury Exposure and Human Health: Controversial Issues Regarding Low Level Exposure." Dr. Kosnett received his B.S. in molecular biophysics and biochemistry from Yale University, his M.D. from the University of California San Francisco, and his M.P.H. in environmental health sciences from the University of California at Berkeley.

Dan Paschal

Dr. Paschal has more than 20 years experience as a research chemist in CDC's Nutritional Biochemistry Branch, Division of Environmental Health Laboratory Sciences, within the National Center for Environmental Health. He is responsible for establishing and maintaining "state of the art" analytical methods for toxic elements in biological samples, participating in transfer of appropriate technology to state or other environmental health laboratories, and supervision of technical research involving method development and specimen collection protocols. Dr. Paschal has studied various aspects of hair analysis and published papers related to the "age-dependence of metals in hair" and "reference intervals for 28 elements in nonoccupationally exposed adults in the United States and effects of hair treatment." Dr. Paschal also consults with a wide variety of state and local health professionals to evaluate analytical methods, quality control procedures, and exposure assessment approaches. Dr. Paschal received his B.S. in chemistry and his Ph.D. in analytical chemistry from the Georgia Institute of Technology.

Sharon Seidel

Dr. Seidel is a toxicologist for Impact Assessment, Inc., a contractor for the California Department of Health Services. Prior to that she served as a toxicologist for the U.S. Environmental Protection Agency Superfund Program in Region 9. She has studied the health implications of a number of environmental exposures, including children's exposures to pesticides. Her primary involvement with hair analysis is a recent comprehensive assessment of practices of commercial laboratories performing a broad suite of mineral analyses being used as a clinical assessment tool and to identify toxic exposures. Her findings were published in the January 2001 *Journal of the American Medical Association*. Dr. Seidel received her B.A. in chemistry from the University of California, San Diego, and her Ph.D. in pharmacology from the University of Iowa.

LuAnn White

Dr. White is an associate professor and director of the Center for Applied Environmental Public Health at the Tulane School of Public Health and Tropical Medicine. She has designed and implemented the key elements of the Tulane/HAMMER project for the U.S. Department of Energy to improve environmental restoration and waste management worker health and safety through education and training. She is an innovator in the use of distant learning technologies. Dr. White is a diplomate, American Board of Toxicology, and has promoted the use of Geographic Information Systems for toxicologic research. She developed a model for curriculum development in environmental health which provides a skills-based approach to environmental education. Dr. White also serves on ATSDR's Board of Scientific Counselors. Dr. White received a B.S. in chemistry from St. Mary's Dominican College and a Ph.D. in pharmacology/toxicology from Tulane University.