

Curriculum Vitae

MICHAEL J. KOSNETT, MD, MPH

January 2007

CURRENT TITLE AND AFFILIATIONS

Consultant in Occupational and Environmental Toxicology

Associate Clinical Professor

University of Colorado Health Sciences Center, Denver, CO

Division of Clinical Pharmacology & Toxicology, Department of Medicine

Department of Preventive Medicine & Biometrics

MAILING ADDRESS

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EDUCATION

1975-79	B.S. Yale University, New Haven, CT. (Molecular Biophysics and Biochemistry)
1979-83	M.D. University of California, San Francisco (UCSF) San Francisco, CA
1987-88	M.P.H. School of Public Health, University of California, Berkeley (environmental health sciences)

POSTGRADUATE TRAINING

1983-86	Internal Medicine Residency, Primary Care Track, University of Washington, Seattle, WA
1987-89	Occupational Medicine Residency, University of California, San Francisco

ACADEMIC APPOINTMENTS

1995 +	Associate Clinical Professor (1999+), Assistant Clinical Professor (1995 - 98), Department of Medicine, Division of Clinical Pharmacology and Toxicology, University of Colorado Health Sciences Center
1997 +	Associate Clinical Professor (1999+), Assistant Clinical Professor (1997 - 98), Department of Preventive Medicine & Biometrics, University of Colorado Health Sciences Ctr.
1997+	Assistant Clinical Professor Toxicology Program, Department of Anesthesiology Charles R. Drew University of Medicine and Science
1995-96	Assistant Professor, Division of Emergency Medicine, University of Colorado Health Sciences Center (UCHSC)
1991-95	Assistant Professor of Medicine, Division of Occupational and Environmental Medicine, University of California, San Francisco (UCSF)
1989-90	Clinical Instructor of Medicine, UCSF

BOARD CERTIFICATION

1986	Diplomate, American Board of Internal Medicine
1990	Diplomate, American Board of Medical Toxicology
1991	Diplomate, American Board of Preventive Medicine (Occupational Medicine)

HONORS

1979	Magna Cum Laude, Yale University
1979	Phi Beta Kappa, Yale University
1988	Scholarship Recipient, Occupational Physician Scholarship Fund, American Occupational Medical Association
1989	Robert T. Legge Award for Outstanding Scholarship in Occupational Health. American Industrial Hygiene Association, Northern California section
1989	Clinical Fellowship Award, Agency for Toxic Substances and Disease Registry, (USPHS)
1991	Special Emphasis Research Career Award, National Institute for Occupational Safety and Health
1997	Fellow, American College of Medical Toxicology
2003	Assistant Administrator's Award for Special Service to the Agency for Toxic Substances and Disease Registry

PROFESSIONAL ACTIVITIES

a) National and International

- 2007 Centers for Disease Control and Prevention, Advisory Committee on Childhood Lead Poisoning Prevention
- 2005 Panel Reviewer, Therapeutics Capability Area, Joint Science and Technology Office for Chemical and Biological Defense, U.S. Dept. of Defense
- 2004 Consultant, U.S. Centers for Disease Control, National Center for Environmental Health, Third National Report on Human Exposure to Environmental Chemicals
- 2003 Consultant, U.S. Department of State BioIndustry Initiative, Civilian Research and Development Foundation for the Independent States of the Former Soviet Union
- 2002 – 04 President, American College of Medical Toxicology; Vice-President, 2000-02; Secretary-Treasurer, 1998-00; Board of Directors, 1996-2006
- 2002-05 Association of Occupational and Environmental Clinics: Expert Panel on Medical Management Guidelines for Lead-Exposed Adults
- 2002 –04 World Health Organization, SE Asia Region, Consultant on Arsenic in Drinking Water, and Arsenicosis Case-Detection, Management, and Surveillance
- 2001 – 03 American College of Preventive Medicine, Iodine-131 Education Project Technical Advisory Committee
- 2001 US EPA, FIFRA Scientific Advisory Panel on CCA Treated Wood
- 2001 National Research Council, Subcommittee to Update the 1999 Arsenic Report
- 2001 U.S. Agency for Toxic Substances and Disease Registry: Expert Panel Workshop on Hair Analysis
- 1999-01 National Research Council, Committee on Toxicology, Washington, DC
- 1999-00 U.S. Agency for Toxic Substances and Disease Registry, Consultant on Medical Monitoring at the Bunker Hill Idaho Superfund Site
- 1998+ Ministry of Health, Peoples Republic of China, Course faculty, Workshop on Advanced Methodologies for Occupational and Environmental Health Studies, (Beijing: May, 1998)
- 1997+ U.S. Agency for Toxic Substances and Disease Registry Expert Workshops on Medical Monitoring for the Bunker Hill, Idaho Superfund Site
- 1997-99 National Research Council, Subcommittee on Arsenic in Drinking Water
- 1996 World Health Organization, Temporary Advisor and Medical Consultant, Mission to West Bengal, India on Arsenic in Drinking Water
- 1996-98 Editorial Board, *Chemical Health & Safety* (American Chemical Society)
- 1995, 2005 REAC/TS training course: Handling of Radiation Accidents by Emergency Personnel (3.5 days: Oak Ridge, TN)
- 1994 US EPA workshop participant: Risk Communication and Public Involvement Workshop (3 days: San Francisco, CA)
- 1992, 1994, 1996 -'00: Abstract Reviewer, American Academy of Clinical Toxicology
- 1991 Consultant, Medical Letter on Drugs and Therapeutics
- 1991+ Reviewer, Clinical Toxicology; American Journal of Industrial Medicine; Environmental Research, Epidemiology Reviews, Journal of Occupational Medicine, JAMA, International Journal of Occupational and Environmental Health, Annals of Emergency Medicine, Environmental Health Perspectives, Environmental Health

b) State-wide

- 2006 Medical Monitoring Expert Panel Workshop; California Department of Health Services, Environmental Health Investigations Branch
- 1999-03 Board of Directors, Rocky Mountain Academy of Occupational and Environmental Medicine
- 1998-02 Qualified Medical Examiner - Occ. Med/Toxicology, California Department of Industrial Relations
- 1998+ California Department of Health Services, Occupational Lead Poisoning Prevention Program: Toxicology Consultant
- 1998+Colorado Department of Public Health and Environment: Advisory Committee on Screening for Childhood Lead Poisoning
- 1996+State of Michigan, Department of Public Health, Consultant on Arsenic in Drinking Water
- 1996 Colorado Medical Society, Consultant on screening for childhood lead poisoning
- 1995-96 Colorado Department of Public Health and Environment: Environmental Lead Team member
- 1993-94 California Department of Health Services, Occupational Lead Poisoning Prevention Program: Painters' Project Advisory Comm.
- 1992-94 California-OSHA, Lead in Construction Advisory Committee

c) Regional and University

- 2007 Advisory Committee, Coalition to End Childhood Lead Poisoning in Denver
- 2006 Urban Area Security Initiative, North Central Colorado Medical Community Advisory Committee
- 2000+Technical Advisor, CEASE community coalition, regarding VB/I-70 Superfund Site, Denver, CO (funded by U.S. EPA Technical Assistance Grant)
- 1998 Toxicology consultant, Landfill (commercial hazardous waste) Impact Assessment report prepared on behalf of City of Walnut, California
- 1996 Faculty Senate, University of Colorado School of Medicine
- 1996 Ad hoc grant reviewer for NIEHS pilot project funds, Harvard School of Public Health
- 1995-96 Director, Occupational and Environmental Toxicology Program, Division of Emergency Medicine, University of Colorado Health Sciences Center
- 1995+Attending Physician, Rocky Mountain Poison Control Center
- 1995 University of Colorado Health Sciences Center, Animal Handlers Safety Comm.
- 1994 UC Berkeley Radiation Safety Committee member, subcommittee on human use
- 1993-94 City and County of San Francisco Lead Hazard Reduction Citizens Advisory Committee
- 1991-94 Medical Advisory Board, SF Regional Poison Control Center
- 1985-86 Co-chairman, University of Washington Housestaff Association

1985-86 Resident physician representative, Joint Conference Committee,
University Hospital Governing Board, University of Washington

RECENT RESEARCH PROJECTS AND GRANTS

1. Inter-relationships of Lead in Bone, Blood, and Urine. *[Collection and analysis of noninvasive K-X ray fluorescence bone lead measurements, blood lead concentration, and DMSA-associated urinary lead excretion in active and retired lead workers. Principal Investigator.]*
2. Development of a biological monitoring program for retired Department of Energy employees *[Department of Energy contract to develop and implement a biological monitoring program for former workers at the Rocky Flats Environmental Test Site exposed to solvents, radionuclides, and heavy metals. Co-Investigator.]*
3. Exogenous toxicants and genetic susceptibility in amyotrophic lateral sclerosis. *[Component of multicenter, NIH funded project exploring the etiology of ALS that will assess longterm lead exposure using noninvasive K x-ray fluorescence measurement of lead in bone; Co-Investigator].*
4. Health effects of chronic arsenic exposure from drinking water. *[US EPA funded case control study of examining quantitative arsenic exposure, and ancillary risk factors in patients with chronic cutaneous arsenicism in West Bengal, India (study consultant); related controlled cross-sectional study in Northern Chile (collaborator; on-site investigator)].*
5. Development of an interactive web-based educational module on risk communication for public health officials. *[A project of the Denver Center for Public Health Preparedness, funded by the U.S. Centers for Disease Control. Project team member/consultant].*
6. Exposure of children to arsenic and lead in soil ("Kids at Play Health Survey"). *[Cross-sectional study by University of Colorado Health Sciences Center, funded by CDPHE and ATSDR. study consultant.]*
7. ACMT-ATSDR Cooperative Agreement: Build Capacity to Conduct Environmental Health Education Activities *[5 year cooperative agreement for multiple educational and consultative projects in environmental toxicology. Project Director 1999 – 2004; Project renewed 2004 - 2009]*

TEACHING, University of Colorado School of Medicine, 1995-2007

1. Attending Physician, Rocky Mountain Poison and Drug Center; primary attending for ward rounds 2 days/mo 1998-2006; conferences, attending rounds 1995 - '07
2. Clinical faculty - Occupational Medicine Residency Program; case conferences and journal club, National Jewish Center for Medicine and Research, approximately 1- 2/ mo: 1995 – 2007
3. Critical Care Fellowship Teaching Conference: Arsenic Poisoning (1hr, 2007)
4. Preventive Medicine 6615: Advanced Occupational and Environmental Medicine, 8 hours/yr ('95 - '06)

5. Preventive Medicine 6000: Clinical Epidemiology and Biostatistics: 2 hr/yr; (2006)
6. ENVS 6220-002 Toxicology (CU-Denver) 1 hr/yr (2006)
7. Attending Physician, Clinical Pharmacology Consult Service, University Hospital: 2 month/yr (1995 - 2000)
8. Master's Project Advisor: J. Johnson, Environmental Sciences, University of Colorado, Denver ('96 - '97); K. Nunley, ('98 - '99)
9. Master's Thesis Examining Committee: K. Bjork, Dept. of Preventive Medicine & Biometrics ('96 - '97); L. Hopewell, ('97 - '98)
10. Preventive Medicine 6614: Occupational & Environmental Health: 2 hr/yr ('95 -'96)
11. Family Medicine Clerkship (Occupational Medicine) FMMD 7000: 8 hrs/yr ('95-'96)
12. Attending Physician, Occupational and Environmental Toxicology Clinic, University Hospital: 4 hours/month ('95 -'96)
13. Emergency Medicine Morbidity and Mortality Conferences: toxicology and occupational medicine case discussant: 4 hours/yr ('95 - '96)
14. Internal Medicine Residency Teaching Conferences: Occupational Medicine and Toxicology, 12 hours/yr ('95 - '96)

PUBLICATIONS

a) *Journal Articles*

1. Kosnett, MJ. Biological monitoring for renal endpoints Occupational Medicine: State of the Art Reviews. 5:531-546, 1990
2. Smith AH, Hopenhayn-Rich C, Bates MN, Goeden HM, Hertz-Picciotto I, Duggan H, Wood R, Kosnett MJ, Smith MT, . Cancer risks from arsenic in drinking water. Environ Health Persp 97:259-267, 1992
3. Kosnett MJ. Unanswered questions in metal chelation. Clin Toxicol 30:529-547, 1992
4. Kosnett MJ, Osterloh JD, Hata B. Analysis and in vitro solubility of arsenic residues recovered from ion implantors, in Hazard Assessment and Control Technology in Semiconductor Manufacturing -II, Cincinnati: American Conference of Governmental Industrial Hygienists, 1993
5. Kosnett MJ, Becker CE, Osterloh JD, Kelly TJ, Pasta DJ. Factors influencing bone lead concentration in a suburban community assessed by noninvasive K x-ray fluorescence. JAMA, 271:197-203, 1994
6. Kosnett MJ. Sullivan-style principles for occupational health: Corporate commitment to first world standards in third world countries. Int J Occup Environ Health 1:219-220, 1995
7. Hipkins KL, MaternaBL, Kosnett MJ et al. Medical guidelines for the lead-exposed worker. AAOHN J 46:330-339; 1998

8. Subramanian KS, Kosnett MJ. Human exposures to arsenic from consumption of well water in West Bengal, India. *Int J Occup Environ Health*. 4:217-230; 1998
9. Kosnett MJ. "Clinical approaches to the treatment of chronic arsenic intoxication: from chelation to chemoprevention," in Chappell WR, Abernathy CA (eds), *Proceedings of the Third International Conference on Arsenic Exposure and Health Effects*, New York: Elsevier, 1999
10. Smith AH, Arroyo AP, Guha Mazumder DN, Kosnett MJ et al. Arsenic-induced skin lesions among Atacameño people in Northern Chile despite good nutrition and centuries of exposure. *Environ Health Perspect* 108:617-620; 2000
11. Chung JS, Kalman DA, Moore LE, Kosnett MJ et al. Family correlations of arsenic methylation patterns in children and parents exposed to high concentrations of arsenic in drinking water. *Environ Health Perspect*, 110:729-733, 2002
12. Coyle P, Kosnett MJ, Hipkins K. Severe lead poisoning in the plastics industry: A report of three cases. *Am J Ind Med* 47:172-175; 2005
13. Kosnett MJ, Wedeen RP, Rothenberg SJ, Hipkins KL, Materna BL, Schwartz BS, Hu H, Woolf A. Recommendations for medical management of adult lead exposure. *Environ Health Perspect* 2007 *in press*

b) *Book chapters and monographs*

1. Kosnett, MJ. "Arsenic Toxicity" in *Case Studies in Environmental Medicine*, #5. 1990. [monograph]. United States Agency for Toxic Substances and Disease Registry. Atlanta, GA
- 2-6. Kosnett MJ. "Arsenic," "Lead," "Mercury," "CaEDTA," and "DMSA" [book chapters] in Olson KR, (ed) *Poisoning and Drug Overdose*, 2nd Ed., San Mateo, CA: Appleton & Lange, 1994
7. Hipkins KL, Kosnett MJ. "Lead Poisoning" in Bowler RM, Cone JE (eds), *Occupational Medicine Secrets*, Philadelphia: Hanley & Belfus; 1999
8. Kosnett MJ "Heavy Metal Intoxication and Chelators" in Katzung B (ed) *Basic & Clinical Pharmacology*, 8th Ed., Norwalk, CT: Appleton & Lange, 2001
9. Kosnett MJ. "Lead" in Ford M, Delaney KA et al (ed) *Clinical Toxicology*, St. Louis: WB Saunders, 2001

- 10-17. Kosnett MJ. "Arsenic", "Arsine", "Lead", "Mercury", "BAL (Dimercaprol)", "EDTA, Calcium", "Succimer (DMSA)", "Unithiol (DMPS)" (book chapters) in Olson KR (editor), *Poisoning and Drug Overdose*, 4th Edition, New York: McGraw Hill, 2004
- 18-23. Kosnett MJ. "Arsenic", "Lead", "Dimercaprol (BAL)", "Calcium Edetate", "Succimer (DMSA)", "Unithiol (DMPS)" in Brent J et al (eds) *Critical Care Toxicology: Diagnosis and Management of the Critically Poisoned Patient*, Philadelphia: Elsevier, 2005
24. Kosnett MJ. "Heavy Metal Intoxication and Chelators" in Katzung B (ed) *Basic and Clinical Pharmacology*, 10th ed, New York: McGraw Hill/Lange, 2007
- 25-32. Kosnett MJ. "Arsenic", "Arsine", "Lead", "Mercury", "BAL (Dimercaprol)", "EDTA Calcium", "Succimer (DMSA)", "Unithiol (DMPS)" in Olson KR (editor), *Poisoning and Drug Overdose*, 5th Edition, New York: McGraw Hill/Lange, 2007

c) *Abstracts*

1. Kosnett, MJ, Becker CE. "2,3-Dimercaptosuccinic Acid: Utility in Acute and Chronic Arsenic Poisoning." [abstract] *Vet Hum Toxicol* 30:369, 1988
2. Kosnett MJ, Dutra C et al. "Nephrotoxicity from Elemental Mercury: Protective Effects of Dimercaptosuccinic Acid." [abstract] *Vet Hum Toxicol* 31:351, 1989
3. Kosnett MJ, North W, Herzberg W, Wu P. Bone lead concentration after delayed intoxication from retained buckshot [abstract]. *Vet Hum Toxicol*, 35:354, 1993
4. Kosnett MJ, Regan LS, Kelly TJ, Osterloh JD, "Interrelationships of urinary lead after DMSA challenge, bone lead burden, and blood lead in lead exposed workers [abstract] *Vet Hum Toxicol*, 36:363, 1994
5. Kosnett M, Rubens R, Goldman B. Delayed encephalopathy and proximal motor weakness in a patient with a blood lead level of 436 $\mu\text{g}/\text{dl}$ [abstract] *Clin Toxicol* 35:524; 1997
6. Daly FFS, Kosnett MJ. Fatal pulmonary edema following exposure to an acrolein herbicide. [abstract] *J Tox Clin Toxicol* 38:545-546, 2000
7. Kosnett MJ. Arsenic, an old poison rediscovered. [extended abstract] *J Tox Clin Toxicol* 42:423-424; 2004

PRESENTATIONS at NATIONAL and INTERNATIONAL MEETINGS/ FORUMS, (since 1990)

1. International Conference on Nanotechnology: Occupational and Environmental Health & Safety, "Web-enabled medical surveillance systems for workers exposed to nanoparticles." Cincinnati, OH, December 2006
2. American Public Health Association 134th Annual Meeting, "A Medical Monitoring System for Rapid Enrollment and Tracking of a Population Impacted by a Mass Hazardous Exposure", Boston, MA, November 2006
3. American College of Medical Toxicology. "The Medical Toxicologist as a Consultant: Life Beyond the World of Acute In-patient Care" ACMT Fellows-in-Training Luncheon, North American Congress of Clinical Toxicology, San Francisco October 2006 (joint presentation with J. Brent, MD, PhD)
4. U.S. Army Center for Health Promotion and Preventive Medicine – 9th Annual Force Health Protection Conference, "Methodologic Advances in the Use of Web-enabled Medical Monitoring and Event Surveillance", Albuquerque, NM, August 2006
5. U.S. Army Center for Health Promotion and Preventive Medicine – 9th Annual Force Health Protection Conference, "Ionizing Radiation as a Terrorist Threat", Albuquerque, NM, August 2006
6. U.S. Army Center for Health Promotion and Preventive Medicine – 8th Annual Force Health Protection Conference, "Terrorist Threats from Toxins with Delayed Onset", Louisville, KY, August 2005
7. Interstate Technology and Regulatory Council, "Health Effects of Chronic Ingestion of Arsenic in Drinking Water", plenary panel presentation, Albuquerque, NM, October 2004
8. Acute and Intensive Care Symposium, invited case discussant, American Academy of Clinical Toxicology, North American Congress of Clinical Toxicology, Seattle, WA, September 2004
9. "Medical Consequences of Terrorist Use of Toxic Industrial Chemicals" Medichem 2004, Paris, France, September, 2004
10. "Keynote lecture: Arsenic, an Old Poison Rediscovered", XXIV International Congress, European Association of Poison Centres and Clinical Toxicologists, Strausbourg, France, June 2004
11. "Beryllium, Arsine, and Stibine: Special Cases" in Chemical Agents of Opportunity for Terrorism: The Medical and Psychological Consequences of TICs and TIMs. American College of Medical Toxicology, Arlington, VA, October, 2003

12. "The Year in Toxicology 2003: Publications of Note Regarding Low Level Lead Exposure" (invited presentation) North American Congress of Clinical Toxicology, Chicago, IL, September, 2003
13. "Heavy Metal Urine Monitoring: Role of Creatinine Correction and 24 Hour Collection", American College of Medical Toxicology, Spring Course in Medical Toxicology, Atlanta, Georgia, April, 2003
14. "Mechanisms of Toxin-Induced Disease: Impacts on Dose-Response Relationships, and Implications for Medical Diagnosis, Public Health, and Causation Analysis," Science for Judges Conference, Brooklyn Law School Center for Health Law and Policy, (in collaboration with the Federal Judicial Center), Brooklyn, NY, March, 2003
15. "New Considerations in Risk Assessment of Heavy Metals in Soil: The Role of Child Pica Behavior, Garden Vegetable Ingestion, and Site-Specific Data on Bioavailability and Soil/Housedust Correlations," National Technical Assistant Grant Workshop, U.S. Environmental Protection Agency. Albuquerque, February, 2003
16. "Emergency Assessment and Management of Exposure to Inorganic Arsenic and Arsine", International Symposium on Counter-Terrorism: Decision-Making Tools in Response to Terrorist Use of Hazardous Substances, Russian Ministry of Health (MedBioExtreme), Volgograd, Russia, October, 2002
17. "New Perspectives on the Clinical Toxicology of Arsenic: When Mechanisms Once Thought Helpful are Harmful...and Vice-Versa" (invited presentation), American Academy of Clinical Toxicology Scientific Symposium, North American Congress of Clinical Toxicology, Palm Springs, CA, September, 2002
18. "Noninvasive Measurement of Lead in Bone by K X-Ray Fluorescence: An Update on Epidemiological and Clinical Applications," (invited presentation), American College of Medical Toxicology, First Annual Spring Course in Medical Toxicology, Phoenix, April, 2002.
19. "Major Environmental Releases of Radioiodine from Nuclear Reactors: The Role of Potassium Iodide in Emergency Response Planning for the Public" (invited presentation), Preventive Medicine 2002, American College of Preventive Medicine, San Antonio, February, 2002
20. "Arsenic in Drinking Water: An Overview of the Worldwide Problem" (invited presentation), Ninth International Congress of Toxicology (IUTOX), Brisbane, Australia, July, 2001
21. "Elemental Mercury Exposure and Human Health: Controversial Issues Regarding Low Level Exposure" (invited keynote address), U.S. Agency for Toxic Substances and Disease Registry, 2001 ATSDR Partners in Public Health Meeting, Atlanta, GA, April, 2001
22. "Review of the Scientific Basis for Regulation of Arsenic in Drinking Water", Western

Governors' Association Forum on EPA's New Rule on a Drinking Water Standard for Arsenic, (invited presentation), Denver, CO, March, 2001

23. "Environmental Arsenic Exposure: New Concerns Regarding Internal Cancers, Cardiovascular Disease, and Diabetes", American College of Occupational and Environmental Medicine, State of the Art Conference, Nashville, TN, October, 2000
24. Testimony on behalf of the National Research Council's Subcommittee on Arsenic in Drinking Water, United States Senate, Committee on Environment and Public Works, Subcommittee on Fisheries, Wildlife and Water; Washington, DC; June 29, 2000
25. "The Evolution of Public Health Concern over Environmental Arsenic Exposure in the Nineteenth and Early Twentieth Centuries," (poster presentation), Fourth International Conference on Arsenic Exposure and Health Effects, Society of Environmental Geochemistry and Health, San Diego, CA, June, 2000
26. "Low level lead exposure and hypertension: implications of epidemiological and experimental research", (invited presentation), Symposium on Lead Remediation Effectiveness, US Environmental Protection Agency et al, Coeur d'Alene, ID, May, 2000
27. "The Role of Medical Toxicologists and Poison Control Centers in Responding to Chemical and Biological Incidents" (platform presentation), Chemical and Biological Medical Treatment Symposium III, Swiss Defense Procurement Agency, AC-Laboratorium, Spietz, Switzerland, May, 2000
28. "Epidemic Arsenic Poisoning in India and Bangladesh", (invited presentation), American College of Medical Toxicology, La Jolla, CA, September, 1999
29. "Arsenic in Drinking Water: Understanding the NRC's Risk Characterization" (invited presentation), United States Environmental Protection Agency, Annual Meeting of Risk Assessors, Seattle, WA, May, 1999
30. "Clinical Approaches to the Treatment of Chronic Arsenic Intoxication: From Chelation to Chemoprevention" (invited presentation) Third International Conference on Arsenic Exposure and Health Effects, Society of Environmental Geochemistry and Health, San Diego, CA, July, 1998
31. "Toxicity of Chronic, Low Level Lead Exposure" (invited address), National Institute for Occupational Safety and Health, Adult Blood Lead Exposure Survey national meeting, East Lansing, MI, May, 1998
32. "Toxicology Resources on the Internet", American College of Medical Toxicology Practice Symposium, St. Louis, MO, September, 1997

33. "Blood Borne Pathogens in the Workplace: Potential Exposure to First Responders" (invited presentation), Oil Chemical and Atomic Workers Union, Joint Union-Management Health and Safety Conference, Denver, CO, October, 1996
34. "Biological Monitoring for Heavy Metals" (invited presentation), American College of Occupational and Environmental Medicine, State of the Art Conference, Seattle, WA, October, 1995
35. "Implications of Non-illicit drug use in the workplace" (invited presentation), American College of Occupational and Environmental Medicine, Northwest Conference on Occupational Health, Portland, OR, October, 1995
36. "The Practice of Occupational Toxicology in Academic Medical Centers" (invited presentation), American College of Medical Toxicology Practice Symposium, Rochester, NY, September, 1995
37. "Clinical Applications of Noninvasive X-ray Fluorescence Measurements of Lead in Bone" (invited presentation), American College of Occupational and Environmental Medicine, American Occupational Health Conference, Las Vegas, May, 1995
38. "Newer Therapies for the Management of Acute and Chronic Metal Poisoning" (invited presentation), American College of Occupational and Environmental Medicine, State of the Art Conference, Denver, October, 1994
39. "Interrelationships of Urinary Lead after DMSA Challenge, Bone Lead Burden, and Blood Lead In Lead Exposed Workers" (accepted paper), American Academy of Clinical Toxicology Annual Scientific Meeting, Salt Lake City, September, 1994
40. "Clinical and Epidemiological Applications of In Vivo X-ray Fluorescence Measurements" (invited keynote presentation), Workshop on In Vivo XRF Measurement of Heavy Elements, 43rd Annual Denver Conference on Applications of X-ray Analysis, Steamboat Springs, August, 1994
41. "Patterns of Lead Chelation and Medical Removal Protection in U.S. Occupational and Environmental Health Clinics," (invited presentation), Association of Occupational and Environmental Clinics, annual membership meeting, San Francisco, October, 1993
42. "Heavy Metal Chelation with DMPS," (invited presentation) American College of Medical Toxicology Symposium, Annual Scientific Meeting, New York, September, 1993.
43. "Medical Surveillance for Arsenic" (invited presentation) Semiconductor Safety Association, Annual Health and Safety Conference. Phoenix: April, 1993
44. "Assessment of Body Lead Burden by K X-ray Fluorescence Measurement of Lead in Bone," (accepted paper) American Academy of Clinical Toxicology, Tampa, FL, September, 1992

45. "The Lackawanna Lead Study: Assessment of Environmental Lead Exposure by In Vivo K X-ray Fluorescence," (accepted paper) Division of Environmental Chemistry, American Chemical Society, Washington, DC, August, 1992
46. "Biological Monitoring for Heavy Metals", (invited presentation) Postgraduate Seminar, American Occupational Health Conference, American College of Occupational Medicine, San Francisco, April, 1991
47. "Management of Lead Intoxication", (invited presentation) Prevention '91, Association of Occupational and Environmental Clinics. Baltimore, February, 1991
48. "Influence of Race on Lead - Hypertension Relationships", (invited presentation) National Minority Health Conference, Agency for Toxic Substances and Disease Registry, Atlanta, December, 1990
49. "Clinical Toxicology of Lead: A Review for the Clinician", (invited presentation) Western Occupational Medical Association, Los Angeles, November, 1990
50. "Medical Management of Lead Intoxication", (invited presentation) National Association of County Health Officers/ Agency for Toxic Substances and Disease Registry, New York City, September, 1990.
51. "Unanswered Questions in Metal Toxicology", (invited presentation), American Academy of Clinical Toxicology Annual Scientific Meeting. Tucson: September, 1990
52. "Biological Monitoring for Arsenic in the Microelectronics Industry: Problems and Prospects." (accepted paper) Society for Occupational and Environmental Health, New Technologies: Issues in Occupational and Environmental Health. Bethesda: April, 1990

UNIVERSITY AND REGIONAL PRESENTATIONS, 1993-2006 (partial list)

1. Monterey Institute of International Studies, "Terrorist Threats from Toxins with Delayed Onset", Monterey, CA, May 2006
2. Suffolk County Department of Health Services, "Ionizing Radiation as a Terrorist Threat", Long Island, NY, August, 2005
3. U.S. Air Force Institute of Operational Health ("Invited Guest" Lecture Series), "Biomarkers and Medical Monitoring to Prevent Occupational Illness: Pitfalls and Progress", San Antonio, TX, May, 2005
4. Public Health in the Rocky Mountains 2004, "Terrorists Threats from Toxins with Delayed Onset", Breckenridge, CO, September, 2004

5. Kaiser Permanente Medical Center, San Francisco. "A Woman with Abdominal Pain and Anemia," Medical Staff Teaching Conference, July, 2003
6. American College of Occupational and Environmental Medicine. Basic Curriculum in Occupational Medicine: Metals. Denver, June, 2002
7. California Department of Health Services, Occupational Lead Poisoning Prevention Program, Keynote speaker, CME Program: Providing Effective Medical Services to Lead-Exposed Workers: Key Issues in Toxicology, Clinical Management, and Medical Surveillance", March, 2002
8. Colorado Department of Public Health and Environment. Seminar presentation. "Health Effects of Elemental Mercury," February, 2002
9. Rocky Mountain Academy of Occupational and Environmental Medicine. Annual Professional Meeting/Conference. "Health Effects of Elemental Mercury", January, 2002.
10. University of New Mexico, School of Medicine, Department of Pathology Grand Rounds: "Arsenic in Drinking Water: Health Concerns", Albuquerque, NM, May, 2001
11. Idaho Division of Health, Superfund-Related Environmental Health Education Project, Environmental Health CME Seminar: "Lead Screening in Children Update: Who Should be Tested and Why," Idaho Falls, ID, March, 2001
12. California Department of Health Services, Occupational Lead Poisoning Prevention Program, and Drew University School of Medicine and Science: "Providing Effective Medical Services to Lead-Exposed Workers: Key Issues in Toxicology, Clinical Management, and Medical Surveillance." Los Angeles, CA, November, 2000
13. University of Colorado, Denver. Chancellor's Scholars and Leaders Symposium: "World Water Issues: Arsenic Contamination of Drinking Water." April, 2000
14. Center for Research on Occupational and Environmental Toxicology, Oregon Health Sciences University, "Chronic Exposure to Arsenic in Drinking Water: International Calamities and Domestic Health Concerns Regarding Cancer, Cardiovascular Disease and Diabetes. January, 2000
15. School of Public Health, University of California, Berkeley, "Clinical Evaluation of Patients with Chronic Arsenic Exposure," Arsenic Research and Training Workshop, Fogarty International Program (US/China) Berkeley, CA, October, 1999
16. Kootenai Medical Center, "Does Lead Cause Hypertension: An Update for Clinicians," Coeur d'Alene, ID, (invited presentation, Idaho Department of Health and Welfare and U.S. ATSDR), November, 1998

17. Rocky Mountain Academy of Occupational and Environmental Medicine, "Medical Removal Protection for Lead Workers", Denver, Co, November, 1998
18. Division of Occupational and Environmental Medicine, UCSF Postgraduate Programs, "Heavy Metals Toxicology" and "Chelation of Heavy Metals", San Francisco, October, 1998; January, 1996
19. Children's Hospital of Michigan Regional Poison Control Center, "Arsenic in Well Water," Detroit, MI, October, 1997
20. Rocky Mountain Poison and Drug Center, "Arsenic in Groundwater in West Bengal, India: the World's Largest Arsenic Exposure Problem," Denver, May, 1997
21. UCLA Occupational and Environmental Medicine Seminar, "Noninvasive measurement of lead in bone: a new approach to an ancient problem," Los Angeles, CA, February, 1997
22. Rocky Mountain Academy of Occupational and Environmental Medicine, 32nd Annual Conference on Occupational Medicine, "Endemic Arsenic Poisoning in India," Denver, CO, January, 1997
23. Aspen Environmental Conference, Givens Institute, UCHSC, "Old and New Tests for Lead Intoxication," (invited presentation), Aspen, Colorado, September, 1996
24. Institute of Postgraduate Medical Education, SSKM Medical Center, "A Historical Perspective on Heavy Metal Chelation," Calcutta, India, August, 1996
25. Nevada State Medical Association, "Occupational and Environmental Exposure to Heavy Metals in the Mining Industry," (invited presentation), 1996 Scientific Session, Newport Beach, CA, April, 1996
26. Rocky Mountain Poison and Drug Center, "K x-ray Fluorescence and Chelation Challenge Tests in Assessment of Lead Toxicity", Noon Conference, January, 1996
27. Rocky Mountain Academy of Occupational and Environmental Medicine, "Management of Lead Poisoning: Therapeutic Chelation and Chelation Challenge Tests", 31st Annual Conference on Occupational Medicine, Denver, CO, January, 1996
28. Rocky Mountain Academy of Occupational and Environmental Medicine, "New Approaches to an Ancient Problem: Bone Lead and Chelation in Lead Poisoning", Denver, April, 1995
29. Family Medicine Grand Rounds, St. Lukes-Presbyterian Medical Center, "Diagnosis and Management of Lead Poisoning," Aurora, CO, March, 1995
30. Rocky Mountain Poison and Drug Center, "Chelation of Heavy Metals: An Historical Perspective", Denver, March, 1995

31. Univ. Colorado Health Sciences Center, Clinical Pharmacology Research Conference, "Non-invasive Measurement of Lead in Bone: Emerging Applications of a New Biomarker", Denver, February, 1995
32. Univ. Colorado Health Sciences Center, Department of Medicine Morbidity and Mortality Conference, "A 58 year old man with abdominal pain, anemia, and peripheral weakness, " Denver, March, 1995
33. Univ. Colorado Health Sciences Center, Clinical Pharmacology - Toxicology Conference, "Percutaneous Exposure to Yttrium-90: Therapeutic Chelation with DTPA", Denver, February, 1995
34. Institute for Environmental Studies, University of Pennsylvania, "Bone lead measurements using x-ray fluorescence," Philadelphia, December, 1994
35. Rocky Mountain Poison and Drug Information Center, "Noninvasive measurement of lead in bone by K x-ray fluorescence: a promising new biomarker", Denver, March , 1994
36. UC Berkeley, Programs in Environmental Hazard Management, "Lead Exposure: Health Effects and Biological Monitoring", Richmond, September, 1994, February, 1994, October 1993
37. UCSF, Occupational and Environmental Grand Rounds, "DMPS Chelation: What are the Russians Up To?", San Francisco, October 1993
38. St. Petersburg Society of Toxicology, "Medical Toxicology and Poison Control in the United States," Military Medical Academy, St. Petersburg, Russia, June, 1993
39. San Francisco Bay Area Regional Poison Control Center, Annual Symposium on Poisoning and Drug Overdose, "Occupational and Environmental Case Studies", San Francisco, June, 1993
40. Alta Bates Medical Center, Occupational and Environmental Grand Rounds, "Diagnosis and Management of Lead Poisoning," Berkeley, May, 1993
41. National Lead Abatement Council Midwinter Conference, "Health Hazards of Lead Exposure," Santa Clara, CA, March, 1993
42. UCSF, Advances in Occupational and Environmental Medicine, "Lead Chelation - A Critical Appraisal," San Francisco, November, 1993,.1992
43. Stanford University, Neurology Grand Rounds, "Lead Neuropathy", Palo Alto, January, 1993
44. Division of Occupational and Environmental Medicine, UCSF Postgraduate Programs. "Health Hazards of Dopant Metals," "Occupational Hazards from Lead, Arsenic, Mercury and Cadmium." San Francisco, October, 1993

