Environmental Health Resource Directory

To assist you in responding to environmental health concerns

August 1997

Washington State Department of Health
Office of Toxic Substances
DOH Pub 333-023 8/97

Funded by the Agency for Toxic Substances and Disease Registry
U.S. Public Health Service

Environmental Health and Toxic Substances
Quick Reference Numbers

Washington State Poison Center	800-732-6985
Seattle Poison Center	206-526-2121
P.O. Box 5371	TDD 800-572-0638
Seattle, WA 91805	TDD 206-517-2394

For treatment recommendations in emergency situations.

Harborview Medical Center	206-731-3005

Department of Emergency Management	800-258-5990
Statewide 24-Hour Number	206-438-8639

Will coordinate emergency response for toxic releases, spills, toxic chemicals, natural and man-made disasters.

Washington State Department of Health	
Consumer Assistance Hotline	800-525-0127
Environmental Health Programs	
Toxic Substances	888-5TOXICS/360-586-5401
Community Environmental Health	360-586-1249
Drinking Water	360-753-3466
Radiation Protection	360-753-3468
Radiation Emergency (24 hours)	206-NUCLEAR/206-682-5327
Shellfish Programs	360-664-3215
Environmental Health Assessment Services	360-586-5403
Office of Epidemiology	360-705-6040
Noninfectious Conditions Epidemiology	360-705-6047
Communicable Disease Epidemiology	206-361-2914

Washington State Department of Ecology	
Northwest Regional Office	425-649-7000
Southwest Regional Office	360-407-6300
Central Regional Office	509-575-2490
Eastern Regional Office	509-456-2926

Agency for Toxic Substances and Disease Registry	
Region 10 Office (WA, AL, OR, ID)	206-553-2113
Assistant Administrator	404-639-0700
Health Assessment and Consultation	404-639-0610
Health Education	404-639-6204

United States Environmental Protection Agency	
Region 10 Water Program	206-553-1223
Region 10 Air Programs	206-553-0218
Region 10 Superfund Programs	206-553-1090

Center for Disease Control and Prevention	
National Institute for Occupational Safety and Health (NIOSH)	800-356-4674
Center for Environmental Health	404-488-7000

Phone numbers for the Environmental Health Division of your Local Health Department can be found beginning on page 25.

Environmental Health Resource Directory

To assist you in responding to environmental health concerns

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Washington State Department of Health
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Funded by the Agency for Toxic Substances and Disease Registry
U.S. Public Health Service

If you need this publication in an alternative format,
please call 1-800-525-0127.

A C K N O W L E D G M E N T S

Health Care Provider Review Panel (1995 Edition)

David Albert
Washington State Board of Health

Thomas A. Bell, MD, MPH
Health Officer
Lewis County, Cowlitz County

CDR James Brooks, MD
Department of Occupational Health Medicine
Bremerton Naval Hospital

Kim Fields, RN
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Joan F. Garner, MN, RN
Washington State Nurses Association

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Department of Labor and Industries

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Occupational and Environmental Medicine Program
Harborview Medical Center

Jude Van Buren, DrPh
The Evergreen State College

Vickie Ybarra, RN, BSN
Yakima Valley Farmworkers Clinic

Revisions for 1997 Edition

Internal review

STATE OF WASHINGTON

DEPARTMENT OF HEALTH

Olympia, Washington 98504

Dear Concerned Reader:

This Environmental Health Resource Directory has been updated from the original version published in 1995 by the Washington State Department of Health, Office of Toxic Substances. The original purpose of the directory was to provide a compendium of resources which are readily accessible and pertinent to health care providers. Through the last two years of use and evaluation, we found that community members also found information in the directory to be helpful.

The Environmental Health Resource Directory addresses questions such as:

- How do I assess possible chemical exposure?
- Who can I call for consultation or information about specific concerns, like air quality or safe drinking water?
- What resources are available to provide me with more information?

We wish to acknowledge the assistance of the Federal Agency for Toxic Substances and Disease Registry in the development of the directory. Additionally, the original directory was reviewed by many health care professionals. The 1997 version was completed internally with many hours of extensive research and comments received from users throughout the last two years.

The Washington Department of Health will continue to update the directory as needed and to provide supplements on environmental health topics. We welcome your comments about the directory and would like to hear of other types of environmental health information that you would find useful.

Please send any comments regarding the directory or suggestions for additional environmental health information to Cindy Gleason, Washington Department of Health, Office of Toxic Substances, PO Box 47825, Olympia WA 98504-7825; Phone: 360-586-5406 or 1-888-5TOXICS; Fax: 360-586-5529.

Sincerely,

Mimi L. Fields, MD

MIMI L. FIELDS, MD, MPH, FACPM
Deputy Secretary/Health Officer

PURPOSE OF THE DIRECTORY

Physicians and other health care professionals as well as community members are confronted with a variety of concerns which fall into the realm of environmental medicine. The term environmental medicine is meant to encompass the care of patients exposed to toxic substances in their homes, neighborhoods and work places through such media as contaminated soil, water and air. The purpose of the Environmental Health Resource Directory is to provide a compendium of resources which are readily accessible and pertinent to health care concerns.

The Environmental Health Resource Directory includes:

- A directory of federal, state and private resources
- Environmental health history forms which can be included in patient records
- An overview of hazardous waste sites in Washington State
- Information on risk communication with patients and the community
- A bibliography of references for additional research into specific environmental medicine topics

We encourage Directory users to let us know your opinions of its value, and to suggest changes for future editions. **An evaluation form is enclosed**.

Preparation of the 1997 Environmental Health Resource Directory was coordinated by Cindy Gleason, Health Educator, Washington State Department of Health, Office of Toxic Substances. The 1995 edition was coordinated by Joanne Bonnar, MPH, DOH, OTS. It is patterned after the Environmental Resource Notebook produced by the Colorado Department of Health. The project was supported by funds from the Comprehensive Environmental Response, Compensation, and Liability Act trust fund through a cooperative agreement with the Agency for Toxic Substances and Disease Registry (ATSDR). Inclusion in this directory does not, in itself, indicate endorsement by either the Washington Department of Health or ATSDR.

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HOW TO USE THE DIRECTORY

Want details on recording an environmental health history?
See **Exposure History Forms** (following page 62).

Need resources for further information on environmental medicine?
See **Bibliography**, page A-10.

Want to know where to obtain more information on environmental health hazards?
See **Topical Listing of Resources**, beginning on page 1.

Looking for medical action guidelines for lead exposures?
See **Lead Management Guidelines**, page A-3.

Interested in further information on hazardous waste sites in Washington?
See **Hazardous Waste Sites**, pages 39–42.

Need ideas for discussing environmental risks?
See **Risk Communication**, pages 45–50.

Want a description of computer resources on environmental medicine?
See **Computerized Information Services**, pages 59–61.

TOPICAL LISTING OF RESOURCES

Air Quality (Indoor)

American Lung Association
National 212-315-8700
Seattle 206-441-5100
Spokane 509-325-6516
For information on health effects of woodsmoke and indoor air pollution.

Consumer Product Safety Commission
Publication Request
Washington, DC 20207
800-638-2772
Write or phone this federal agency to order the publication "Biological Pollutants in Your Home" and other pamphlets on indoor air quality.

Environmental Protection Agency
Region 10 Office of Air Quality
1200 Sixth Avenue (OAQ-107)
Seattle, WA 98101
206-553-4273

Indoor Air Quality Information Clearinghouse
PO Box 37133
Washington, DC 20013-7133
800-438-4318
Fax 202-484-1510
For general and legislative information about indoor air quality. The Clearinghouse has available many pamphlets and factsheets.

Lungline
National Jewish Research and Medical Center
1400 Jackson Street
Denver, CO 80206
800-222-5864
Nurses are available to answer questions and supply publications on occupational and environmental lung diseases.

National Institute for Occupational Safety & Health (NIOSH)
4676 Columbia Parkway (Mail Stop R9)
Cincinnati, OH 45226-1998
800-35-NIOSH or 1-800-356-4674
For information on indoor air quality and other hazards within the workplace. The "800" number will reach a NIOSH technical information specialist who can provide consultation and referral. To directly reach the NIOSH Industrial Hygiene Section which handles indoor air quality questions, dial 513-841-4374.

University of Washington
Department of Environmental Health
Field Research and Consultation Group
Box 354695
Seattle, WA 98105
206-543-9711

Washington Department of Health
Indoor Air Quality Program
PO Box 47825
Olympia, WA 98504-7825
360-664-8860, Tim Hardin
For indoor air quality questions related to human health in either residential or school settings.

Washington Department of Labor & Industries
Consultation and Compliance
PO Box 44651
Olympia, WA 98504-4651
360-902-5464 or 360-902-5463
For indoor air quality questions within work settings. See list of field locations under "Occupational Health" listings for direct dialing to office nearest you.

Air Quality (Outdoor)

Washington State Department of Ecology
Air Quality Program
360-407-6800
For questions about statewide regulation of air pollution.

Other Ecology numbers which may be of interest:
Woodsmoke and Outdoor Burning Information Line 800-523-4636
Auto Emissions Testing and Industrial Complaints 800-272-3780

Washington Department of Health
Ambient Air Program
PO Box 47825
Olympia, WA 98504-7825
360-753-2410
For questions concerning health effects of air pollutants.

American Lung Association
National 212-315-8700
Seattle 206-441-5100
Spokane 509-325-6516
For information on health effects of woodsmoke and indoor air pollution.

Regional Air Pollution Control Agencies

For questions about regional air pollution regulations, complaint investigations, and woodsmoke information, contact the local air pollution control agency or regional Department of Ecology office in your area.

Puget Sound Air Pollution Control Agency
110 Union Street, Suite 500
Seattle, WA 98101-2038
206-343-8800 or 800-552-3565
For King, Kitsap, Pierce, Snohomish Counties

Olympic Air Pollution Control Authority
909 Sleater-Kinney Road SE, Suite 1
Lacey, WA 98503-1128
360-438-8768 or 800-442-5623
For Clallam, Grays Harbor, Jefferson, Mason, Pacific, Thurston Counties

Northwest Air Pollution Authority
302 Pine Street #207
Mount Vernon, WA 98273-3852
360-428-1617
For Island, Skagit, Whatcom Counties

Southwest Air Pollution Control Authority
1308 NE 134th Street, Suite A
Vancouver, WA 98685-2747
360-574-3058 or 800-633-0709
For Clark, Cowlitz, Lewis, Skamania, Wahkiakum Counties

Eastern Washington/Spokane County Air Pollution Control Authority
W 1101 College Avenue, Suite 403
Spokane, WA 99201
509-456-4727

Yakima County Clean Air Authority
6 South 2nd Street, Room 1016
Yakima, WA 98901-2631
509-574-1411

Benton Franklin Counties Air Pollution Control Authority
650 George Washington Way
Richland, WA 99352
509-943-3396

Washington Department of Ecology Regional Offices

Central Regional Office
15 W. Yakima Avenue, Suite 200
Yakima, WA 98902-3401
509-575-2490

Southwest Regional Office
PO Box 47712
Olympia, WA 98504-7712
360-407-6300

Northwest Regional Office
3190-160th Avenue, SE
Bellevue, WA 98008-5452
425-649-7000

Eastern Regional Office
N 4601 Monroe Street
Spokane, WA 99205-1295
509-456-3114

Environmental Protection Agency
Region 10 Air and Radiation Programs
1200 Sixth Avenue (AT-082)
Seattle, WA 98101
206-553-1275
For information on air compliance and permitting, indoor air and air programs development.

National Air Toxics Information Clearinghouse (NATICH)
Environmental Protection Agency
Pollutant Assessment Branch, MD-13
Research Triangle Park, NC 27711
Air Risk Information Support Center 919-541-0888

Asbestos

Environmental Protection Agency
Asbestos Ombudsman
800-368-5888
For information and publications on asbestos activities especially for small businesses.

Environmental Protection Agency
Toxic Substances Hotline
202-554-1404
For information on asbestos and other toxic substances.

Cancer

American Cancer Society
800-ACS-2345
Seattle 206-283-1152
Tacoma 253-272-5767
Eastern Washington 800-537-7710
Staff members have access to a national computerized database to provide information on cancer and support services for cancer patients or their families.

Cancer Information Service
800-4-CANCER/800-422-6237
Out of Fred Hutchington Center, this service is affiliated with the National Cancer Institute. This agency has treatment guidelines, information and publications geared toward health professionals and patients.

Washington Department of Health
Cancer Prevention Program
360-586-6082
Information and technical assistance concerning cancer prevention and control strategies. Funds community based programs in tobacco prevention and breast and cervical cancer screening.

Washington Department of Health
Cancer Registry
360-586-6082
This statewide registry gathers cancer incidence data needed to plan and evaluate cancer control activities and to monitor trends.

Drinking Water

Environmental Protection Agency
Region 10 Water Programs
1200 Sixth Avenue
Seattle, WA 98101
206-553-1223

Environmental Protection Agency
Safe Drinking Water Hotline
401 M Street SW
East Tower Rm 1113 D
Mail Stop 4604
Washington, DC 20460
800-426-4791

Local Health Department
Environmental Health Programs
See the list beginning on page 25 for the Local Health Department in your community.

Washington Department of Ecology
Water Quality Program
PO Box 47600
Olympia, WA 98504-7600
This program functions to prevent and control water pollution in surface and ground water. It may also coordinate with the Department of Health to ensure safe drinking water sources.

Washington Department of Health
Division of Drinking Water
PO Box 47822
Olympia, WA 98504-7822
Olympia Office 360-753-3466
Northwest Operations 206-464-7670
Southwest Operations 360-664-0768
Eastern Operations 509-456-3115

Washington Department of Health
Safe Drinking Water Hotline
800-521-0323
For general drinking water questions as well as information pertaining to drinking water laws, regulations and operating permits.

Food Safety

Food and Drug Administration (FDA)
National Headquarters
Commissioner's Office
5600 Fishers Lane
Rockville, MD 20857
301-827-2410
Michael Friedman, Lead Deputy Commissioner
The Food and Drug Administration (FDA) inspects manufacturing plants and warehouses, collects and analyzes samples of foods, drugs, import cosmetics, and therapeutic devices for adulteration and misbranding. Investigators are located in resident posts in major cities throughout the country.

Local Health Department
Environmental Health/
Food Protection Programs
Please refer to the list beginning on page 25 for the address and phone number of the Local Health Department nearest you.

Washington Department of Health
Community Environmental Health Programs
Airdustrial Center Building 2
Olympia, WA 98504-7826
360-664-0222
Angela Sarvinski, Administrative Assistant

Washington Department of Health
Office of Shellfish Programs
Airdustrial Center Building 4
Olympia, WA 98504-7824
360-664-3215
Jan Jacobs, Administrative Assistant

Washington State University
Cooperative Extension
Please refer to list of county extension offices found on page 29.

Hazardous Chemicals

Agency for Toxic Substances and Disease Registry (ATSDR)
Region 10
1200 Sixth Avenue, Suite 1930
Seattle, WA 98101
206-553-1049

CHEMTREC
800-CMA-8200
The Chemical Manufacturers Association can provide referrals to chemical manufacturers and agencies for health and safety information on chemicals.

Environmental Protection Agency
Toxic Substances Hotline
202-554-1404

Environmental Protection Agency
Region 10 Water Programs 206-553-1223
Region 10 Air Programs 206-553-0218
Region 10 Superfund Programs206-553-1090

TSCA Hotline
202-554-1404
For information on Toxic Substances Control Act (TSCA) regulations of toxic substances including PCBs, asbestos.

Washington Department of Health
Office of Toxic Substances
PO Box 47825
Olympia, WA 98504-7825
360-586-5401
888-5TOXICS
For information on health studies at hazardous waste sites and other ongoing studies, or for questions about the potential health risks from exposure to toxic substances.

Washington Department of Health
Safe Drinking Water Program
360-753-1280
Information on water supply policies and regulations and information on chemical contamination in drinking water.

Washington State Poison Center
Seattle Poison Center
PO Box 5371
Seattle, WA 98105
206-526-2121
800-732-6985
To obtain information on poisoning in ***emergency*** situations. (Not a general information line.)

Lead

Alliance to End Childhood Lead Poisoning
227 Massachusetts Avenue NE, Suite 200
Washington, DC 20002
202-543-1147
This national educational, policy and advocacy organization can provide information and resources on all aspects of the childhood lead poisoning issue.

Environmental Protection Agency
Region 10 Public Information Center
1200 Sixth Avenue (EXA-142A)
Seattle, WA 98101
800-424-4EPA or 800-424-4372
To order EPA publication *Lead and Your Drinking Water* and other publications.

Lead Test Kits
800-359-9000 or 800-262-5323
Test Kit manufacturer's line to provide consumers with information on how to purchase home test kits for lead on surfaces including ceramics, paint, toys, soil and water. These kits generally detect the presence of lead but may not reveal the amount of lead. Lead swab test kits are also available in some hardware and drug stores.

National Lead Information Center
Lead Hotline
800-LEAD-FYI (800-532-3394)
A recorded messaging system will enable the caller to order a free information packet on lead poisoning and prevention and lists of state and local agencies for additional information. Operates in English and Spanish.

Washington Department of Health
Division of Drinking Water
Airdustrial Center, Bldg. #3
PO Box 47822
Olympia, WA 98504-7822
360-753-5995
Information about drinking water testing for lead and other contaminants.

Washington Department of Health
Non-Infectious Disease Epidemiology
1102 SE Quince Street
PO Box 47812
Olympia, WA 98504-7812
360-705-6048
Surveillance of lead poisoning.

Washington Department of Health
Office of Toxic Substances
Airdustrial Center, Bldg. #4
PO Box 47825
Olympia, WA 98504-7825
360-753-3859
888-5TOXICS
Public education materials, environmental investigation, consultations, general questions.

Washington Department of Labor & Industries
Safety & Health Assessment
Research Program
PO Box 44330
Olympia, WA 98504-4330
360-902-5669
Adult surveillance and occupational lead activities.

Washington Department of Labor & Industries
Technical Support and Standards
PO Box 44610
Olympia, WA 98504-4610
360-902-5425
Enforcement of occupational lead standards.

NGOs and Advocacy Groups

Environmental Illness/Multiple Chemical Sensitivity
Karen McDonell
253-857-6202
Ms. McDonell is a community based, public health advocate for people who believe they suffer from Environmental Illness/Multiple Chemical Sensitivity, and for their family and friends. She can put people in contact with local groups of those who identify themselves as chemically injured workers of Washington, for the purposes of mutual support, education and advocacy.

Master Home Environmentalist Program
Metro YMCA
206-382-5013
Volunteers are trained through this program, with skills necessary to perform environmental assessments of homes in their communities. Special attention is given to dust mite prevention, storage of household chemical cleaners and pesticides, and to providing overall chemical use reduction education to the homeowner/renter.

Sierra Club
209 4th Avenue E
Olympia, WA 98504
360-754-2386
Among other things, the Sierra Club works for effective implementation of the Model Toxics Control Act and Superfund regulations.

South Puget Environmental Education Clearinghouse (SPEECH)
209 4th Avenue E, Suite 213
Olympia, WA 98501
360-786-6349
SPEECH is a volunteer-run environmental education center. It serves as an information clearinghouse and provides support and resources for those seeking to protect and restore the South Sound environment.

Washington Committee for Occupational Safety and Health (WashCOSH)
6770 East Marginal Way S
Seattle, WA 98108
206-767-7426
WashCOSH is a nonprofit organization of labor unions, workers and health & safety professionals working to prevent occupational injury and disease and to promote healthy and safe workplaces. WashCOSH staff can provide information and advice on evaluating and controlling hazards, workers rights and specific local, state and federal resources.

Washington Environmental Council
1100 2nd Avenue, Suite 102
Seattle, WA 98101
206-622-8103
A coalition of many conservation and wildlife protection groups. The "Public Participation Program" of the WEC assists citizens interested in clean-up of toxic waste sites in their communities.

Washington Toxics Coalition
4516 University Way NE
Seattle, WA 98105
206-632-1545
A non-profit organization that provides information on household, community, agricultural and industrial toxics use and reduction.

Occupational Health and Safety

American Industrial Hygiene Association
Pacific NW Section
PO Box 15176
Seattle, 98115-0176
206-525-9908
A professional association of industrial hygienists practicing in the Pacific Northwest region.

Association of Occupational and Environmental Clinics
1010 Vermont Avenue NW, #513
Washington, DC 20005
Phone: 202-347-4976
Fax: 202-347-4950

AOEC is a national network of clinics dedicated to occupational and environmental health concerns. AOEC can provide referrals to member clinics, which undergo careful screening to assure high standards of care and practice. AOEC can also provide referrals to specialists in specific areas.

Harborview Medical Center
Occupational and Environmental Medicine Clinic
325 Ninth Avenue (Box 359739)
Seattle, WA 98104
206-731-3005
A member clinic of AOEC providing a variety of health care and information services related to occupational and environmental health.

National Institute for Occupational Safety and Health (NIOSH)
4676 Columbia Parkway
Cincinnati, OH 45226-1998
800-356-4674 or 800-35-NIOSH

Northwest Association of Occupational and Environmental Medicine
2033 6th Avenue, Suite 1100
Seattle, WA 98121
206-441-9762
This membership association is primarily composed of physicians who specialize in Occupational and Environmental Medicine.

Northwest Center for Occupational Health and Safety
Department of Environmental Health
University of Washington
4225 Roosevelt Way NE, Suite 100
Seattle, WA 98105-0699
206-543-1069
The Northwest Center for Occupational Health and Safety, one of fourteen Educational Resource Centers funded by the National Institute for Occupational Safety and Health (NIOSH), is responsible for training occupational health and safety professionals in Washington, Oregon, Idaho, and Alaska. The Center offers graduate programs in occupational medicine, occupational health nursing, and industrial hygiene and safety. It also provides continuing education programs to upgrade the skills of people working in these and ancillary disciplines. The Program welcomes suggestions for future courses.

Occupational Safety and Health Consultation Program
PO Box 44600
Olympia, WA 98504-4600
360-902-5488
Washington State Department of Labor and Industries provides free confidential on-site consultations to employers who request assistance in meeting Washington Industrial Safety and Health Association (WISHA) regulations. The consultation service is not involved in OSHA enforcement activities. Staff members are available on a limited basis to provide industrial hygiene and safety consultation to employers.

Washington Committee for Occupational Safety and Health (WashCOSH)
6770 East Marginal Way S
Seattle, WA 98108
206-767-7426
WashCOSH is a nonprofit organization of labor unions, workers and health & safety professionals working to prevent occupational injury and disease and to promote healthy and safe workplaces. WashCOSH staff can provide information and advice on evaluating and controlling hazards, workers rights and specific local, state and federal resources.

Washington Department of Labor & Industries Consultation and Compliance
PO Box 44651
Olympia, WA 98504-4651
360-902-5464 or 360-902-5463
Establishes and enforces workplace safety and health standards in Washington State. Accepts complaints from workers or their physicians which can lead to inspections and requirements for employers to correct identified hazards.

Washington Department of Labor & Industries
Safety & Health Assessment and Research for Prevention (SHARP)
PO Box 44330
Olympia, WA 98504-4330
360-902-5669
The SHARP program is a research program on occupational safety and health issues. It is a program of the Department of Labor and Industries.

Washington State Association of Occupational Health Nurses (WSAOHN)
Janet C. deCarteret
1004 141st Place NE
Bellevue, WA 98007
Phone: 425-644-1948
Fax: 425-644-4242
WSAOHN is a state affiliate of the American Association of Occupational Health Nurses (AAOHN). The principle purpose of the association is to represent the interests and needs of occupational health nursing. Occupational health nurses have specialized knowledge in the fields of industrial hygiene and safety, toxicology, epidemiology, occupational medicine, workers' compensation laws and injury and illness case management.

Pesticides

Washington State Poison Center
800-732-6985
Can help identify ingredients in pesticide products, fax information on expected signs and symptoms of overexposure, and give treatment advice for cases of pesticide related illness.

National Pesticides Telecommunications Network
800-858-PEST or 800-858-7378
http://ace.orst.edu/info/nptn/
A national hotline, sponsored by U.S.EPA, which provides information about toxicology and environmental fate of pesticides. Staff also provide referrals for clean up and disposal of pesticides, and referrals for laboratory testing. The web site lists emergency medical phone numbers for most pesticide manufacturers.

EXTOXNET
http://ace.orst.edu/info/extoxnet
This is a toxicology information site on the World Wide Web developed by four land grant universities (UC California at Davis, Cornell University, Michigan State Univesity, and Oregon State University). It provides science based information on over 100 pesticides.

Washington State Department of Agriculture
Pesticide Compliance
Olympia 360-902-2040
Yakima 509-575-2746
Provides information on pesticide regulation. Investigates unsafe use of pesticides.

Washington State Department of Health
Pesticides Section
PO Box 47825
Olympia, WA 98504-7825
360-753-5965
For case investigations, case follow-up and to report illnesses. Pesticide illness cases can also be reported by calling the Washington State Poison Control Center, 800-732-6985.

Washington State Department of Labor and Industries
Consultation and Compliance
Mary Miller, MN, ARNP
Policy and Technical Services
360-902-5666
Can provide state recommendation regarding pesticide exposure monitoring of occupational workers.

Washington State University
Cooperative Extension
Please refer to list of pesticide resources found on page 29.

Academic Consultants
See listings on pages 33-35.

Radiation

EPA Radon Hotline
800-767-7236 or 800-SOS-RADON
Operated by the National Safety Council, this recorded message provides information on how to order free brochures on radon and radon testing.

Hanford Health Information Network
Washington State Information Center
800-522-4446
Hours: Monday 9:30am–12pm, Tuesday 1pm–5pm, Thursday 1pm–5pm
The Hanford Health Information Network was established to respond to citizens and health care professionals who want to know more about the potential health effects of radioactive materials released from Hanford. It is a collaboration among three states and nine Indian Nations. There are Service/Information Centers in Oregon, Idaho and Washington and a Tribal Service Program located in Portland, Oregon.

U.S. Department of Energy
Uranium Mill Tailings Project Office
Suite 10,000
2155 Louisiana Blvd NE
Albuquerque, NM 87108
800-523-6495 or 505-845-4628
For information on uranium mill tailings remedial projects in the United States.

Washington Department of Health
Division of Radiation Protection
Airdustrial Center Building 5
Olympia, WA 98504-7827
360-586-8949
For questions concerning:
X-ray Protection 206-464-5408
Radioactive Materials 360-753-3461
Waste Management 360-753-3459
(low-level radioactive waste, uranium mills)
Environmental Monitoring 360-586-8943
(including radon questions)
Radiation Emergencies 206-NUCLEAR
(24-hour toll number)

Superfund

Agency for Toxic Substances and Disease Registry (ATSDR)
Region 10
1200 Sixth Avenue, Suite 1930
Seattle, WA 98101
206-553-2113
Information on toxic substances found at Superfund sites. Information on public health assessments for Superfund sites.

CERCLA/RCRA/EPCRA Hotline
800-424-9346 or 800-535-0202
Information on RCRA (solid waste), CERCLA (Superfund) and underground storage tank programs. Assistance is also available regarding EPCRA (the Emergency Planning and Community Right-To-Know Act) and SARA Title III. EPCRA/SARA establishes requirements for federal, state and local governments and industry regarding emergency planning and community right-to-know reporting on hazardous and toxic chemicals. Specialists can answer regulatory and technical questions and can respond to background document requests.

Environmental Protection Agency
Region 10
1200 Sixth Avenue
Seattle, WA 98101
206-553-1200 or 800-424-4EPA
For information on remediation of hazardous waste sites.

Environmental Protection Agency
Region 10 Community Relations
800-227-8917
For information on Superfund site clean-up, public meetings and to be placed on a mailing list for site information.

Environmental Protection Agency
Region 10 Superfund Responses Investigation
206-553-2136

Environmental Protection Agency
Toxicology
800-227-8917
For information on toxicology of hazardous substances found at Superfund sites.

Environmental Protection Agency
Superfund Hotline
800-424-9346
Information on the federal Superfund program. Specialists can answer regulatory and technical questions and can respond to background document requests.

Washington Department of Ecology
Toxics Cleanup Program
PO Box 47600
Olympia, WA 98504-7600
360-407-7170
For information on remediation of state (non-Superfund) hazardous waste sites.

Washington Department of Health
Office of Toxic Substances
PO Box 47825
Olympia, WA 98504-7825
360-586-5401
For information on health studies at hazardous waste sites and for information about the potential health risks from exposure to hazardous materials or toxic substances.

ATSDR

Agency for Toxic Substances and Disease Registry
Region 10 Office
1200 6th Avenue, Suite 1930
Seattle, WA 98101
206-553-2113 or 206-553-5114

Emergency Response Line
(24-hour basis) 404-639-0615

Atlanta, GA office
General Information 404-639-6000
Your call will be transferred to the appropriate division for assistance.

Division of Health Education .. 404-639-6205
(To order Public Health Statements, Newsletter, *Case Studies in Environmental Medicine.*)

The Agency for Toxic Substances and Disease Registry (ATSDR) is a federal public health agency located in Atlanta, Georgia. It is part of the Public Health Service within the U.S. Department of Health and Human Services. Created by Superfund legislation in 1980, ATSDR has a mission to prevent or mitigate adverse human health effects and diminished quality of life resulting from exposure to hazardous substances in the environment. To carry out this mission and serve the needs of the American public, ATSDR conducts activities in the following areas:

Public Health Assessments/Consultations— Evaluate data and information on the release of hazardous substances into the environment at Superfund, RCRA or other petitioned sites.

Health Investigations—Increase our understanding of the relationship between exposure to hazardous substances and adverse human health effects through studies of toxic substances and their effects.

Exposure and Disease Registries—Establish and maintain a registry of persons exposed to hazardous substances and a registry of serious diseases and illnesses in persons exposed to hazardous substances in the environment.

Emergency Response—Provide health-related support to states, local agencies, and health care providers in public health emergencies that involve exposure to hazardous substances, including health consultations on request and training for first responders.

Toxicological Profiles—Summarize and make available to the public data on the health effects of hazardous substances found at the National Priorities List sites, identify significant gaps in knowledge, and initiate research in toxicology and health effects where needed.

Public Health Statements—Provide information, in a question-and-answer format, on the toxicity and health effects of toxic substances commonly found at Superfund sites; aimed to reach health professionals and citizens.

Health Education—Develop and disseminate, to health care providers, individuals, and communities, materials on the health effects of toxic substances; produce *Case Studies in Environmental Medicine;* establish and maintain a publicly accessible inventory of hazardous substances.

Newsletter—Produce *Hazardous Substances and Public Health* for health care professionals; provide information on programs and strategies aimed at mitigating adverse health effects of exposure to hazardous substances; report on effective educational materials and training programs.

Applied Research—Conduct or sponsor research to increase scientific knowledge about the effects on human health of hazardous substances released from waste sites or of other releases into the environment.

Environmental Protection Agency

Region 10 Office
1200 Sixth Avenue (MS: HW-117)
800-424-4372 or 206-553-1200
This agency administers the federal regulatory programs for hazardous waste, solid waste, pesticides, radiation, air and water pollution.

Air Quality 206-553-4273
Pesticides 206-553-1091
Public Information Center 206-553-4973
Superfund Response and
Investigation 206-553-2136
Water Quality..... 206-553-1981

Asbestos Ombudsman Clearinghouse
800-368-5888
Information on handling and abatement of asbestos.

CERCLA/RCRA/EPCRA Hotline
800-424-9346 or 800-535-0202
Information on solid waste disposal (RCRA), Superfund sites (CERCLA) and Underground Storage Tank programs. Assistance is also available regarding the Emergency Planning and Community Right-To-Know Act (EPCRA) and SARA Title III which establish requirements for governments and industry regarding emergency planning and community reporting on hazardous and toxic chemicals. Specialists can answer regulatory and technical questions and can respond to background document requests.

DOT Standards
202-366-4488
Information on Department of Transportation regulations for transportation of hazardous materials.

National Pesticides Telecommunications Network
NPTN 333 Weniger Hall
Oregon State University
Corvalis, OR 97331-6502
Phone 800-858-7378
Fax 541-737-0761

NPTN provides information on specific pesticide products, toxicology, health and environmental effects, clean-up and disposal procedures, and patient management. Telephone personnel are pesticide specialists with agricultural, environmental and public health backgrounds. Health professionals can order, for a nominal fee, the EPA publication "Recognition and Management of Pesticide Poisonings." The Network operates daily from 6:30am to 4pm.

National Response Center (NRC)
800-424-8802
To report release or threatened release of hazardous substances. NRC receives initial reports of oil and chemical spills and rapidly passes the information to the predesignated federal on-scene coordinator for action.

Safe Drinking Water Hotline
800-426-4791
Information on water supply policies and regulations including hazardous chemical contamination in drinking water.

Small Business Hotline/
Asbestos On Business Hotline
800-368-5888
Advice and information to small businessmen on complying with EPA regulations including hazardous waste management.

TSCA Hotline
202-554-1404
Information on Toxic Substances Control Act regulations of toxic substances including PCBs, asbestos.

Other Federal Resources

Centers for Disease Control and Prevention (CDC)

CDC is part of the Public Health Service within the U.S. Department of Health and Human Services. CDC administers national programs for the prevention and control of infectious diseases; occupational diseases and injury; chronic diseases; and environment-related injury and illness. The seven centers are:

Center for Chronic Disease Prevention and Health Promotion 404-488-5401
Center for Environmental Health 707-488-7000
Center for Infectious Diseases ... 404-639-3401
Center for Injury Prevention and Control 707-488-4690
National Center for HIV, STD, TD Prevention Services 404-639-8000
National Center for Health Statistics 301-436-7016
National Institute for Occupational Safety and Health ..... (see below)

Center for Environmental Health (CEH)

404-488-7000

CEH is an agency within CDC which is responsible for programs involving noninfectious, non-occupational environmental illnesses and disabilities. Agency programs include interventions to reduce or eliminate environmental hazards, exposures to these hazards, and adverse health outcomes resulting from exposure. CEH also maintains a diagnostic laboratory for assessing environmental exposure and health effects.

National Institute of Environmental Health Sciences (NIEHS)

ENVIRO-HEALTH Hotline
800-643-4794 or 800-NIEHS-94

ENVIRO-HEALTH is a NIEHS Clearinghouse that functions as an easily accessible, free source of information on environmental health effects. Calls are received weekdays from 9am to 8pm Eastern time.

National Institute for Occupational Safety & Health (NIOSH)

800-35-NIOSH or 800-356-4674

Information and standards on occupational safety and health. NIOSH is a non-regulatory agency in CDC which is responsible for conducting research and making recommendations on occupational safety and health standards. NIOSH investigates toxic substances and develops criteria for the use of such substances in the workplace. NIOSH representatives, upon written request from an employer or employee representative, may conduct health hazard evaluations at the worksite.

National Technical Information Service (NTIS)

703-487-4650

NTIS is a repository for research and reference materials on a wide variety of subjects. Contact them for a catalog of their environment related publications or to order other materials. Call 800-553-6847 for a rush order.

Occupational Safety & Health Administration (OSHA)

800-755-7090 or 303-844-5285

OSHA is an agency of the Department of Labor with responsibility to: develop mandatory job safety and health standards and regulations; inspect workplaces to enforce existing health and safety standards; provide consultation and education for the workplace.

In Washington State, the Washington Industrial Safety and Health Association (WISHA) as overseen by the federal OSHA, assumes much of the role and responsibility of the federal program. To lodge complaints or report health and safety violations, serious injuries or fatalities, physicians may use the WISHA Safety and Health Hotline: 800-423-7233

Rural Information Center Health Service

National Agricultural Library
Room 304
Beltsville, MD 20705
800-633-7701

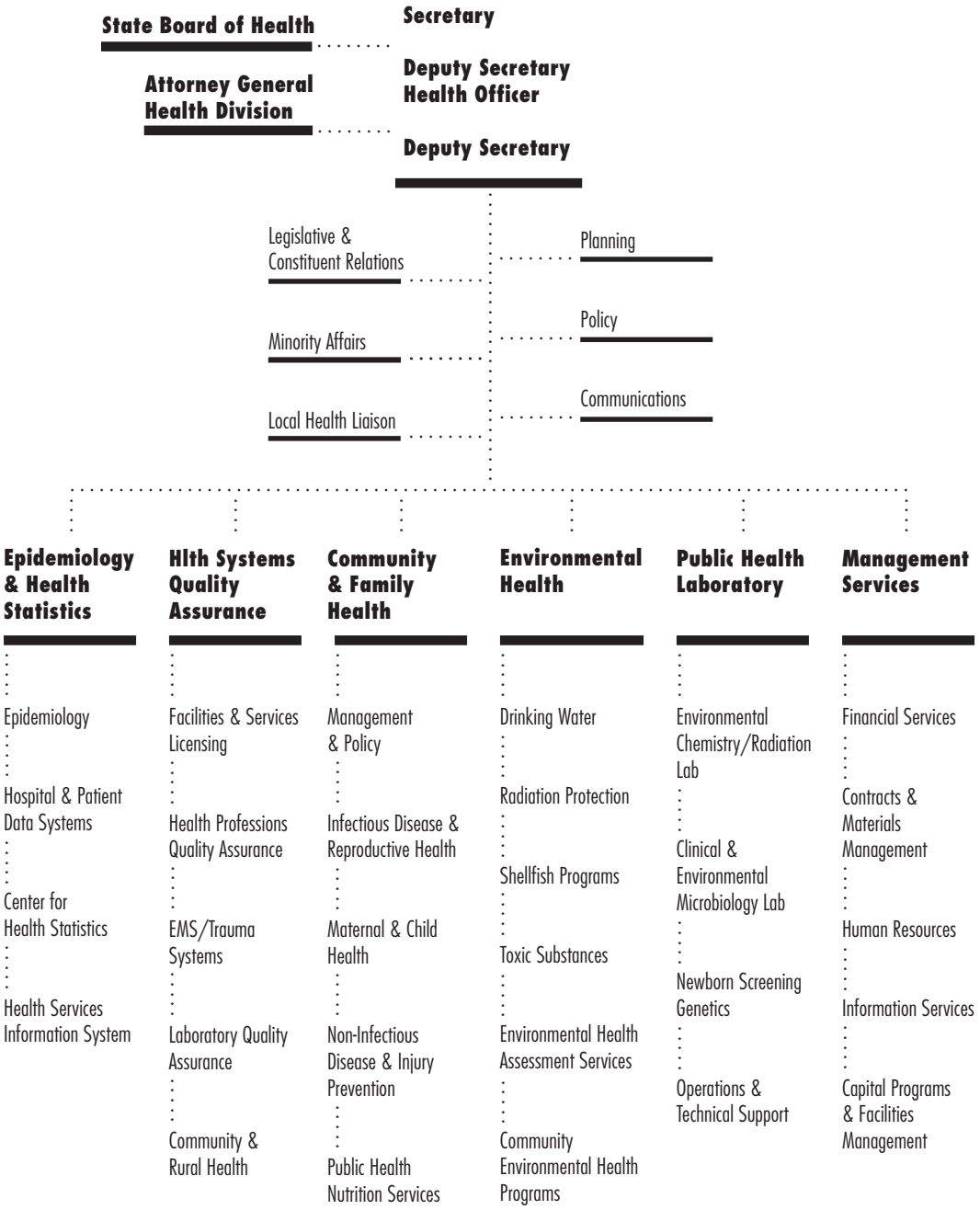
The Department of Health and Human Services and the National Agricultural Library jointly created this Rural Information Center Health Service (RICHS). RICHS is designed to collect and disseminate information on rural health issues, research findings relating to rural health, and innovative approaches to delivery of rural health care services.

Uranium Mill Tailings Project Office

P.O. Box 5400
Albuquerque, NM 87185
505-845-4628

A part of the Department of Energy (DOE), this office coordinates the nationwide cleanup of uranium mill tailings (UMTRA).

Washington Department of Health
— Organization —



STATE RESOURCES

Washington Department of Health

1112 S.E. Quince (PO Box 47890)
Olympia, WA 98504-7890
Bruce A. Miyahara, MHA, Secretary
Kris Van Gorkom, Acting Deputy Secretary
Mimi Fields, MD, MPH, FACTM
Health Officer
Paul Stehr-Green, DrPH, MPH
State Epidemiologist
Phone 360-753-5871
Fax 360-586-7424

The Department of Health helps Washingtonians live healthier lives by:

- Empowering individuals and communities to make informed health choices
- Ensuring access to quality prevention and illness care
- Protecting people from environmental threats to health and
- Advocating sound cost-effective health strategies

We envision a future for Washington citizens where we:

- Begin as children born healthy and wanted by healthy families
- Are free of preventable conditions, anticipating long and healthy lives
- May make educated choices about preserving our health
- Enjoy ready access to quality health and illness care when needed
- Have the opportunity to live as independently and with as much dignity as we are able
- Live in a physical environment that nurtures good health

Environmental Health Programs

DOH Environmental Health
PO Box 47820
Airdustrial Center Building 2
Olympia, WA 98504-7820
Eric Slagle, Assistant Secretary
Phone 360-586-5212
Fax 360-664-8150

The mission of Environmental Health is assessment, policy development, and assurance of health programs that protect people from chemical, physical, and biological hazards in the environment.

To accomplish this mission, Environmental Health:

- Ensures that public water systems provide safe and reliable supplies of drinking water;
- Ensures the highest possible level of prevention of environmental-borne illnesses and injuries through general supervision over, and technical assistance and training to, local health departments/districts, primary and secondary schools, water recreation facilities operators, and other community-level agencies and organizations;
- Regulates the possession and use of ionizing radiation in Washington state, to protect the public from harmful effects of radiation by keeping human exposure at levels as low as is reasonably achievable;
- Prevents illness caused by ingesting contaminated shellfish through classification of growing areas, monitoring of products, and public information and education; and
- Prevents adverse effects of environmental exposure to toxic substances through investigation, data collection and assessment, and provision of health effects information and health advisories.

Environmental Health Offices & Divisions

Office of Community Environmental Health Programs

Airdustrial Center Building 2
PO Box 47826
Olympia, WA 98504-7826
Phone 360-586-5797
Fax 360-664-3071
Bill White, Office Director

Division of Drinking Water
Airdustrial Center Building 3
PO Box 47822
Olympia, WA 98504-7822
Phone 360-753-1280
Fax 360-586-5529
Greg Grunenfelder, Division Director

Eastern Operations Section
West 1500 Fourth Avenue, Suite 305
Spokane, WA 99204
Phone 509-456-2457
Fax 509-456-2997
Dan Sander, Section Head

Northwest Operations Section
1511 Third Avenue, Suite 719
Seattle, WA 98101
Phone 206-464-6398
Fax 206-464-7059
Ethan Moseng, Section Head

Southwest Operations Section
2411 Pacific Avenue
Olympia, WA 98504-7823
Phone 360-753-5953
Fax 360-664-8058
Bill Liechty, Section Head

Office of Program Services
Airdustrial Center Building 2
Olympia, WA 98504-7820
Phone 360-753-5958
Fax 360-664-8150
Eric Inouye, Office Director

Division of Radiation Protection
Airdustrial Center Building 5
Olympia, WA 98504-7827
Phone 360-664-4536
Fax 360-753-1496
John Erickson, Division Director

Office of Shellfish Programs
Airdustrial Center Building 4
Olympia, WA 98504-7824
Phone 360-753-4183
Fax 360-586-4499
Maryanne Guichard, Office Director

Office of Toxic Substances
Airdustrial Center Building 4
Olympia, WA 98504-7825
Phone 360-753-1146
Fax 360-586-4499
Carl Sagerser, Office Director

Office of Environmental Health Assessment Services
Airdustrial Center Building 4
Olympia, WA 98504-7846
Phone 360-753-2556
Fax 360-586-4499
Jim O. White, Office Director

Washington State Board of Health

The Washington State Board of Health was established in the State Constitution in 1889 to protect and promote the health of Washingtonians. Its ten members are appointed by the Governor to represent the health needs and concerns of all the people. The mission of the Board is to develop policies to promote, protect, maintain, and improve the health of all Washingtonians. To fulfill this mission, the Board solicits information through public forums, assesses the reports on the people's health status, establishes health-related goals and priorities in the *State Public Health Report*, and adopts administrative rules to implement statutes and Board policies. The Board recommends steps to ensure optimum use of public financial and human resources to prepare Washington to meet the challenges of the twenty-first century.

Required Board membership includes:

- Four people experienced in matters of health and sanitation;
- An elected city official who is a member of a local health board;
- An elected county official who is a member of a local health board;
- A local health officer;
- Two people representing consumers of health care.

The chair of the State Board is selected by the Governor from the nine appointed members. Prior to making appointments to the State Board, the Governor is required to consider recommendations of several organizations:

- Association of Washington Cities (for the elected city official);
- Washington State Association of Counties (for the county official);
- Washington State Association of Local Public Health Officials (for the local health officer);
- State Council on Aging (for one of the consumer representatives).

The Governor also invites recommendations from other organizations and individuals.

State Board of Health Members

Sylvia I. Beck, Executive Director
Chair: Warren Featherstone Reid, JD
Vice-Chair: The Honorable Neva J. Corkrum
Sheri S. Barnard
William Budd, PhD
Ed Gray, MD
Thomas H. Locke, MD, MPH
Bruce Miyahara, MHA
Florence Reeves, RN, BSN
Rory Laughery, MD
Margaret Pageler, JD

State Board of Health Staff

PO Box 47990
Olympia, WA 98504-7990
360-586-0399
Executive Director: Sylvia I. Beck
Health Planner: David H. Albert

LOCAL RESOURCES

Local Health Departments

Adams County Health District
103 West Main
Ritzville, WA 99169
Phone 509-659-3315
Fax 509-659-4109
Health Officer
Robert Atwood 509-659-3315
Environmental Health Director
Michelle Fuson 509-659-3322
Nursing Director
Callie Moore 509-659-3317

Asotin County Health District
431 Elm
Clarkston, WA 99403
Phone 509-758-3344
Fax 509-758-8454
Health Officer
Timothy Moody 509-758-3344
Environmental Health Director
Ronald Neu 509-758-3344
Personal Health Director
Sylvia Burks 509-758-3344

Benton–Franklin Health District
506 McKenzie
Richland, WA 99352
Phone 509-943-2614
Fax 509-546-2916
Health Officer
Larry Jecha 509-943-2614, x240
Environmental Health Director
Bruce Perkins 509-582-7761
Nursing Director
Harriett Sprouse 509-943-2614, x222

Bremerton–Kitsap County Health District
109 Austin Drive
Bremerton, WA 98312
Phone 360-478-5235
Fax 360-478-5298
Health Officer
Willa A. Fisher 360-478-5237
Environmental Health Director
Don G. Miles 360-478-5237
Nursing Director
Roberta Leonardy 360-478-5263

Chelan–Douglas Health District
Personal Health & Administration
316 Washington Street
Wenatchee, WA 98801
Phone 509-664-5306
Fax 509-664-5478

Environmental Health
411 Washington Street
Wenatchee, WA 98801
Phone 509-664-5310
Fax 509-664-5532
Health Officer
Francis Collins 509-664-5306
Assoc. Administrator, Environmental Health
Randy Phillips 509-664-5310
Personal Health Services Director
Pat Malone 509-664-5306

Clallam County Department of Health and Human Services
223 East Fourth Street
Port Angeles, WA 98362
Phone 360-417-2274
Fax 360-417-2519
Health Officer
Thomas Locke 360-417-2437
Health & Human Services Director
Claudia Davis 360-417-2329
Environmental Health Director
Andy Brastad 360-417-2415

Columbia County Health District
221 E Washington, Suite 101PH
Dayton, WA 99328
Phone 509-382-2181
Fax 509-382-2942
Health Officer
Timothy Moody 509-382-2181
Environmental Health Director
Al Schoenhuth 509-382-3048
Nursing Director
Marie Rockwell 509-382-2181

Cowlitz County Health Department
PO Box 458
Longview, WA 98632-7296
Phone 360-425-7400
Fax 360-425-7531
Health Officer
Thomas Bell 360-425-7400
Division Manager
David Riggs 360-425-7400

Garfield County Health District
10th and Columbia
PO Box 130
Pomeroy, WA 99347
Phone 509-843-3412
Fax 509-843-1935
Health Officer
Timothy Moody 509-843-3412
Environmental Health Director
Ronald Neu 509-843-3412
Director of Nursing
Patty Appel 509-843-3412

Grant County Health District
County Courthouse (1st & C St. NW)
PO Box 37
Ephrata, WA 98823
Phone 509-754-6060
Fax 509-754-0941
Health Officer
Robert Atwood 509-754-6060
Environmental Health Director
Kevin Barry 509-754-6060
Nursing Director
Peggy Grigg 509-754-6060

Grays Harbor Health Department
2109 Sumner Avenue
Aberdeen, WA 98520
Phone 360-532-8631
Fax 360-533-6272
Health Officer
John Bausher 360-532-8665
Environmental Health Director, Montesano
Douglas George 360-249-4413
Director of Health
Robert Sergeant 360-532-8665

Island County Health Department
Courthouse Annex
PO Box 5000
Coupeville, WA 98239-5000
Phone 360-679-7350
Fax 360-679-7390
Health Officer
Roger Case 360-679-7352
Health Services Director
Tim McDonald 360-679-7352
Environmental Health Director
Joye Bonvouloir 360-679-7345
Nursing Director
Carol McNeil 360-679-7351

Jefferson County Health & Human Services
Castle Hill Center
615 Sheridan
Port Townsend, WA 98368
Phone 360-385-9400
Fax 360-385-9401
Health Officer
Thomas Locke 360-385-9400
Environmental Health Director
Larry Fay 360-385-9444
Nursing Director
Jean Baldwin 360-385-9400

Kittitas County Health Department
507 Nanum
Ellensburg, WA 98926-2848
Phone 509-962-7515
Fax 509-962-7581
Health Officer
James L. Gale 206-543-8873
Environmental Health Director
John Wolpers 509-962-7698
Public Health Nurse
Joelynn Sinclair 509-962-7515

Lewis County Health Department
Health Services Building
360 NW North Street
Mail Stop: HSD03
Chehalis, WA 98532
Phone 360-740-1223
Fax 360-740-1472
Toll Free 800-562-6130

Environmental Health
350 North Market Blvd.
Chehalis, WA 98532
Phone 360-740-1277
Fax 360-740-1245
Health Officer
Thomas Bell 360-740-1316
Administrator
Bob Berg 360-740-1370
Public Health Manager
James Phillips 360-740-1275

Lincoln County Health Department
303 6th Avenue
PO Box 106
Davenport, WA 99122
Phone 509-725-2501
Fax 509-725-4104
Health Officer
Marshall W. Thompson 509-725-1001
Environmental Health Director
Ed Dzedzy 509-725-2501
Program Director
Diane A. Martin 509-725-1001

Mason County Department of Health Services
303 North Fourth
Shelton, WA 98584
Phone 360-427-9670
Fax 360-427-7798
Health Officer
Mark Trucksess 360-427-9670, x274
Environmental Health Director
Mark Thompkins 360-427-9670, x353
Director of Personal Health
Steve Kutz 360-427-9670, x274

Northeast Tri-County Health District
(Ferry, Pend Oreille, and Stevens Counties)
240 E Dominion
PO Box 270
Colville, WA 99114
Phone 509-684-1301
Fax 509-684-1002
Health Officer
Edmund W. Gray 509-684-1301
Environmental Health Director
James Matsuyama 509-684-2262
Community Health Director
Dorothy McBride 509-684-1301

Okanogan County Health District
Public Services Building
1234 South 1st Avenue
PO Box 231
Okanogan, WA 98840
Phone 509-422-7140
Fax 509-422-7142
Health Officer
Fritz Foulke 509-422-7140
Environmental Health Director
John Callen 509-422-7141
Director of Personal Health Services
Connie Clifford 509-422-7155

Pacific County Health Department
1216 West Robert Bush Drive
PO Box 26
South Bend, WA 98586
Phone 360-875-9343
Fax 360-875-9304
Health Officer
Frank Hing 360-875-9343
Environmental Health Director
Bryan Harrison 360-875-9356
Nursing Director
Kathy Spoor 360-875-9343

San Juan Co. Health & Community Services
145 Rhone Street
PO Box 607
Friday Harbor, WA 98250-0607
Phone 360-378-4474
Fax 360-378-7036
Health Officer
Frank James 360-378-4474
Environmental Health Manager
Mike Kaufmann 360-378-4474
Nursing Director
JoAnne Campbell 360-378-4474

Seattle–King County Dept. of Public Health
First Interstate Center
999 Third Avenue, Suite 1200
Seattle, WA 98104
Phone 206-296-4600
Fax 206-296-0166
Office Director
Alonzo Plough 206-296-4603
Deputy Director
Sharon Stewart Johnson 206-296-4603
Environmental Health Chief
Carl Osaki 206-296-4722
Nursing Chief
Barbara Giles-Wallen 206-296-4617

Skagit County Department of Health
Skagit Co. Administration Bldg, Rm 301
700 South 2nd Street
Mount Vernon, WA 98273-3864
Phone 360-336-9380
Fax 360-336-9401
Health Officer
Howard L. Leibrand 360-336-9380
Director/Administrator
Peter Browning..... 360-336-9380
Environmental Health Director
Ken Willis 360-336-9380
Public Health Nursing Supervisor
Barbara Meier 360-336-9380

Snohomish Health District
3020 Rucker Avenue, Suite 300
Everett, WA 98201-3971
Phone 425-339-5210
Fax 425-339-5216
Health Officer
M. Ward Hinds 425-339-5210
Environmental Health Director
Robert Pekich 425-339-5250
Nursing Director
Elaine Conley 425-339-5230

Southwest Washington Health District
(Clark, Skamania, and Klickitat Counties)
1950 Fort Vancouver Way
PO Box 1870
Vancouver, WA 98663
Phone 360-695-9215
Fax 360-696-8084/8099
Health Officer
Karen Steingart 360-696-8412
Environmental Health Services Director
Lou Dooley 360-696-8428
Community & Family Health Services Dir.
Kay Koontz 360-696-8444

Spokane Regional Health District
West 1101 College Avenue
Spokane, WA 99201-2095
Phone 509-324-1500
Fax 509-324-1507
Health Officer
Kim Thorburn 509-324-1501
Environmental Health Director
David Swink 509-324-1590
Community & Family Services Director
Barbara Feyh 509-324-1617

Tacoma–Pierce County Health Department
3629 South D Street
Tacoma, WA 98408
Phone 253-798-6500
Fax 253-798-7627
Public Health Manager (Nursing)
Sharon Wolvin 253-798-6412
Public Health Manager (Environ. Health)
Steve Marek 253-798-2955
Director of Health
Federico Cruz-Uribe 253-798-2899
Children with Special Health Care Needs
Sharon Rinsvold 253-798-6403

Thurston County Public Health and Social Services Department
529 W 4th Avenue
Olympia, WA 98501
Administration/Personal Health:
Phone 360-786-5581
Fax 360-754-4564
Environmental Health:
Phone 360-786-5455
Fax 360-754-4462
Health Officer
Diana T. Yu 360-786-5581, x6951
Environmental Health
Director 360-786-5456
Director of Nursing
Kathleen Eussen 360-786-5581, x6909

Wahkiakum County Health Department
64 Main Street
PO Box 696
Cathlamet, WA 98612
Phone 360-795-6207
Fax 360-795-6143
Health Officer
Tom Bell 360-795-6207
Nursing Director/Administrator
Anne Ozment 360-795-6207
Environmental Health Specialist
Craig Wells 360-795-6207

Walla Walla County–City Health Department
310 West Poplar
PO Box 1753
Walla Walla, WA 99362-0346
Phone 509-527-3290
Fax 509-527-3264
Health Officer
Robert Bond 509-527-3290
Environmental Health Director
David Eaton 509-527-3290
Personal Health Director
Joan Perry 509-527-3290

Whatcom County Health Department
509 Girard Street
PO Box 935
Bellingham, WA 98227
Phone 360-676-6720
Fax 360-676-7646
Director/Administrator
Chuck Benjamin 360-676-6720
Nursing Director
Kay Guirl 360-676-6720
Environmental Health Director
Regina Delahunt 360-676-6724

Whitman County Health Department
Public Service Building
310 North Main Street
Colfax, WA 99111
Phone 509-397-6280
Fax 509-397-6239
Health Officer
Timothy Moody 509-397-6280
Environmental Health Director
John Skyles 509-397-6282
Personal Health & Nursing Director
Fran Martin 509-397-6280

Yakima Health District
104 North First Street
Yakima, WA 98901
Phone 509-575-4040
Fax 509-575-7894
Health Officer
Robert Atwood 509-575-4040
Environmental Health Director
Gordon Kelly 509-575-4040
Director of Community Health
Terri Jones 509-575-4040

WSU Cooperative Extension

The Washington State University Cooperative Extension offices provide information on agriculture, ranching and other business practices as well as information to consumers on such issues as food handling, gardening and budgeting. Specialists at the offices can provide information on pesticide usage in each local area and proper safety and handling procedures.

Adams 509-659-0090, x214
210 W Broadway, Ritzville, WA 99169

Asotin 509-243-2018
PO Box 9, Asotin, WA 99402-0009

Benton ..... 509-786-5609 or 509-753-3551
1121 Dudley Ave., Prosser, WA 99350-1320
or 5600-E W Canal Pl., Kennewick, WA 99336

Chelan 509-664-5540
400 Washington St., Wenatchee, WA 98801

Clallam 360-417-2279
223 East 4th St., Port Angeles, WA 98362

Clark 360-254-8436
11104 NE 149th St., Bldg. C, Suite 100,
Brush Prairie, WA 98606

Columbia 509-382-4741
202 S 2nd St., Dayton, WA 99328-1327

Cowlitz 360-577-3014
207 N 4th Ave., Kelso, WA 98626

Douglas 509-745-8531
PO Box 550, Waterville, WA 98858-0550

Ferry 509-775-5235
PO Box 466, Republic, WA 99166-0466

Franklin 509-545-3511
Courthouse, Pasco, WA 99301

Garfield 509-843-3701
PO Box 190, Pomeroy, WA 99347-0190

Grant 509-754-2011, x412
PO Box 37, Ephrata, WA 98823

Grays Harbor 360-249-4332
PO Box 552, Montesano, WA 98563

Island 360-679-7327
PO Box 5000, Coupeville, WA 98239-5000

Jefferson 360-379-5610
PO Box 572, Port Townsend, WA 98368-0572

King 206-296-3900
700 Fifth Ave., Ste 3700, Seattle, WA 98104

Kitsap 360-876-7157
614 Division MS-16, Port Orchard, WA 98366

Kittitas 509-962-7507
207 West Tacoma, Ellensburg, WA 98926

Klickitat 509-773-5817
228 W Main, Rm 210, Goldendale, WA 98620

Lewis 360-740-1212
360 NW North MS:AES01,
Chehalis, WA 98532-1900

Lincoln 509-725-4171; 725-4611
PO Box 399, Davenport, WA 99122-0399

Mason ..... 360-427-9670, ext. 395
11840 N Hwy. 101, Shelton, WA 98584-9709

Okanogan 509-422-7245
PO Box 391, Okanogan, WA 98840

Pacific 360-875-9331
PO Box 88, South Bend, WA 98586
Coastal WA Research Unit, Rt. 1, Box 570,
Long Beach, WA 98631

Pend Oreille 509-447-2401
PO Box 5045, Newport, WA 99156-5045

Pierce 253-591-7180
3049 S 36th St., Suite 300,
Tacoma, WA 98409-5739

San Juan 360-378-4414
PO Box 609, Friday Harbor, WA 98250

Skagit 360-428-4270
220 E College Way, Suite 180,
Mt. Vernon, WA 98273-5432

Skamania 509-427-9427
PO Box 790, Stevenson, WA 98648-0790

Snohomish 425-338-2400
600 128th St. SE, Everett, WA 98208-6353

Spokane 509-533-2048
222 N Havana, Spokane, WA 99202-4799

Stevens 509-684-2588
230 Williams Lake Rd., Colville, WA 99114

Thurston 360-786-5445
6128 Capitol Blvd., Olympia, WA 98501

Wahkiakum 360-795-3278
PO Box 278, Cathlamet, WA 98612

Walla Walla 509-527-3260
317 W Rose St., Walla Walla, WA 99362

Whatcom 360-676-6736
1000 N Forest St., Suite 201,
Bellingham, WA 98225-5594

Whitman 509-397-6290
310 N Main, Rm 209, Colfax, WA 99111

Yakima 509-574-1600
128 N 2nd St., Room 233,
Yakima, WA 98901-2631

Research/Extension Centers

WSU Prosser 509-786-2226
240106 North Bun Road
Prosser, WA 99350-9687

WSU Puyallup 253-840-4500
7612 Pioneer Way E
Puyallup, WA 98371-4998

WSU Wenatchee 509-663-8181
1100 North Western Avenue
Wenatchee, WA 98801

Research/Extension Units

WSU Long Beach 360-642-2031
Rt. 1, Box 570
Long Beach, WA 98631

WSU Mt. Vernon 360-424-6121
1468 Memorial Hwy
Mt. Vernon, WA 98273-9788

WSU Vancouver 360-576-6030
1919 NE 78th Street
Vancouver, WA 98665-9752

Branch Campuses

WSU Spokane 509-358-7500
601 W First Avenue
Spokane, WA 99204

WSU Tri-Cities 509-372-7000
100 Sprout Road
Richland, WA 99352

WSU Vancouver 360-546-9788
14204 NE Salmon Creek Ave.,
Vancouver, WA 98686

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Stanley Bigos..... 206-543-3690
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Peter A. Breysse 206-543-2838
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Carl A. (Drew) Brodkin 206-731-3005
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Thomas M. Burbacher 206-685-7674
206-685-2696
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Janice Camp 206-543-9711
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Harvey Checkoway..... 206-543-2052
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Lucio G. Costa 206-543-2831
206-543-4254
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William Daniell 206-685-3160
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David L. Eaton 206-685-3785
206-543-8458
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Alan Fantel..... 206-543-3373
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Elaine M. Faustman 206-685-2269
206-685-2270
Developmental toxicology, risk assessment methodologies, toxicology of N-nistroso compounds, bioactivation/carcinogenesis/drug metabolism, teratogens.

Richard A. Fenske 206-543-0916
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Gary M. Franklin 206-956-5020
206-685-7193
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Stanley H. Freeman..... 206-543-2837
Organization of professional safety programs, falls from elevation in construction industry, occupational exposure.

Joseph P. Geraci..... 206-543-2084
206-543-6498
Radiation biology, physiological mechanisms of radiation induced liver injury.

Steven P. Gilbert 206-543-9780
Primate neuro-behavioral toxicology and teratology, heavy metals and developmental neurotoxicants, risk assessment, noise, reproduction toxicology.

Steven E. Guffey 206-685-3232
Industrial ventilation, confined space entry and heat stress, noise, welding and metal trades and hazards.

Arthur Guy 206-543-1071
Non-ionizing radiation, substations, microwaves, powerlines.

Jack B. Hatlen 206-543-1048
Environmental sanitation practices in public health agencies, environmental health planning and management, workforce education and development, waste water, water disinfection system, water quality, insects and rodents.

David A. Kalman 206-543-3222
Environmental chemistry, detection and fate of chemical hazards in natural and man-made environments, ambient air pollutants, asbestos, dioxin and other organohalogens, heavy metal analysis in soil, industrial chemistry, lead paint, occupational exposure, office hazards, waste water, polycyclic hydrocarbons, soil sampling, trace contaminants, water quality.

Terrance J. Kavanagh 206-685-8479
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Matthew C. Keifer 206-616-1452
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John Kissel 206-543-5111
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206-685-1596
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Timothy Larson 206-543-6815
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Sharon Morris 206-543-8540
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Curtis J. Omiecinski 206-543-1700
206-543-1005
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Mary K. Salazar 206-685-0857
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Steven F. Wiker 206-543-0314
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206-685-1938
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Michael G. Yost 206-685-7234
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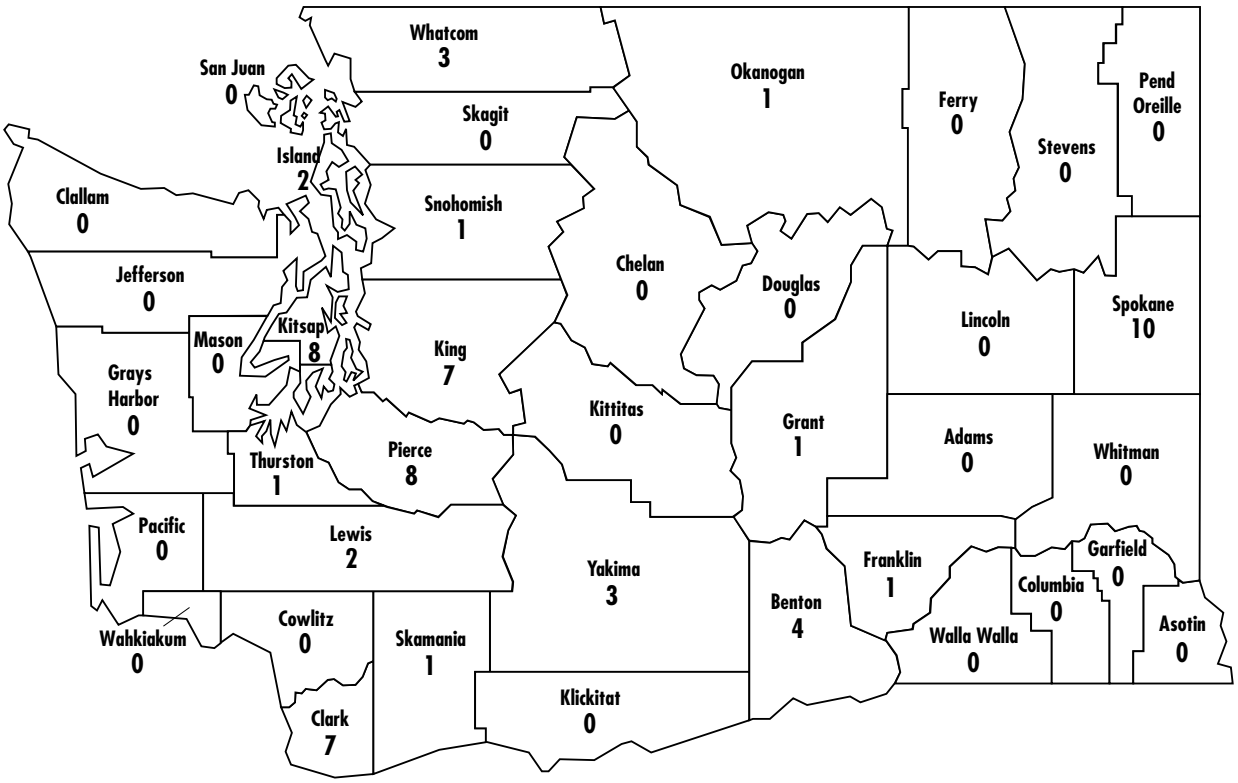
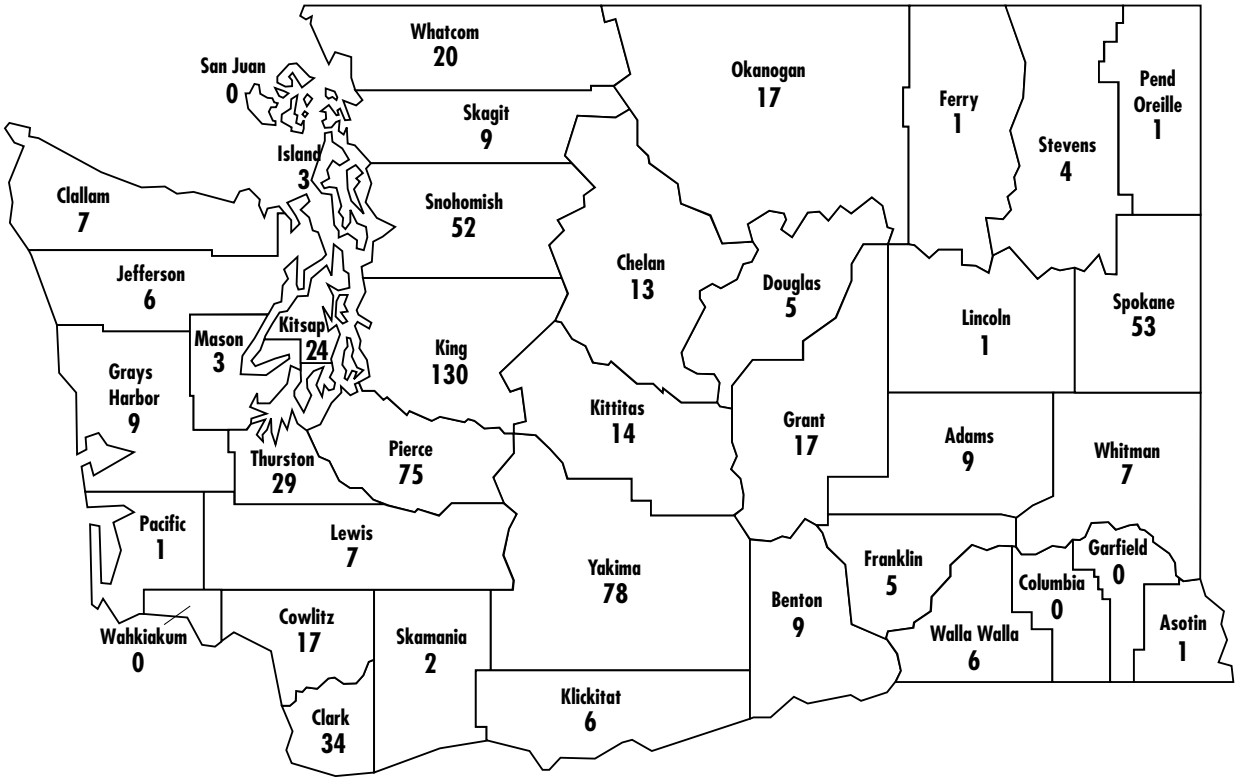
Pullman Cooperative Extension

SUPERFUND Hazardous Waste Sites by County in Washington State



Total Number of NPL Sites as of April 1, 1997 = 60

STATE Hazardous Waste Sites by County in Washington State



Total Number of MTCA Sites as of April 1, 1997 = 675

HAZARDOUS WASTE SITES IN WASHINGTON

Under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended (CERCLA or Superfund), Environmental Protection Agency (EPA) has the authority to cleanup hazardous waste sites with funds from the Hazardous Substances Response Trust Fund. Sites are ranked for listing on the National Priorities List (NPL) making the site eligible for remediation under Superfund. As of April 1, 1997, in the state of Washington, there are 49 sites on the NPL, 1 site proposed, and 10 sites which have been delisted.

CERCLA mandates the Agency for Toxic Substances and Disease Registry (ATSDR) to conduct specific public health activities, such as a health assessment for each site on the NPL. An ATSDR health assessment involves the evaluation of contaminants released into the environment, assessment of current or future impact on public health, and recommendations for studies or actions needed to prevent human health effects. ATSDR is also authorized to perform health assessments at hazardous waste sites when petitioned by EPA, state or local agencies, health professionals, or private citizens and organizations. To accomplish CERCLA requirements, ATSDR has established a cooperative agreement with the Washington State Department of Health (DOH) to conduct health assessments and health education activities at selected Superfund sites in Washington.

In 1989, a hazardous waste cleanup law went into effect in the state of Washington known as the Model Toxic Control Act (MTCA). Washington State Department of Ecology (Ecology) ensures hazardous waste sites are investigated and cleaned up under MTCA. DOH implements public health-related activities at state hazardous waste sites. Activities involve health assessments, health studies, and providing health information for the surrounding communities.

Potential risk to human health posed by hazardous waste sites is based upon factors such as the toxicity of a contaminant, duration and level of exposure, and other environmental and health considerations. Contaminants which are most commonly found at Superfund sites, as well as their associated health effects, are presented in Table 1. In Table 2, the key identified contaminants are listed for each National Priority List site in Washington. Because of the number, information on state sites and contaminants could not be provided in this document. However, this information is accessible through DOH or Ecology.

Health information and resources are available to health care providers including health assessments, fact sheets, case studies, online searches, and toxicological profiles on contaminants commonly found at hazardous waste sites through ATSDR and DOH. DOH can also set up educational training or develop written material for health care professionals or concerned communities.

Table 1. Common Contaminants at Superfund Hazardous Waste Sites

Contaminant Category	Examples	Sources	Potential Health Effects*
Heavy Metals	Arsenic, Barium, Beryllium, Cadmium, Cobalt, Copper, Chromium, Lead, Manganese, Mercury, Nickel, Silver, Selenium, Zinc	Electroplating, batteries, paint pigments, photography, fluorescent lights, solvent recovery	Tumors, cancers, and kidney, brain, neurological, bone and liver damage
Volatile Organic Compounds (VOCs)	Trichloroethylene (TCE), Tetrachloroethylene (PCE), Acetone, Benzene, Ketone, Methyl chloride, Toluene, Vinyl chloride, Dichloroethylene	Solvents and degreasers, gasoline octane enhancers, oils and paints, dry cleaning fluids, chemical manufacturing	Cancers, kidney and liver damage, impairment of nervous system resulting in sleepiness and headaches, leukemia
Pesticides/ Herbicides	Chlordane, DDT 4-4, DDE, Heptachlor, Aldrin, Endrin, Atrazine, Dieldrin, Toxaphene	Agricultural applications, pesticide and herbicide production	Various effects ranging from nausea to nervous disorders. Dioxin is common by-product of the manufacture of pesticides and is both highly toxic and a suspected carcinogen.
Polychlorinated Biphenyls (PCBs)	Aroclor 1248, Aroclor 1254, Aroclor 1260	Electric transformers and capacitors, insulators and coolants, adhesives, caulking compound, carbonless copy paper, hydraulic fluids	Cancer and liver damage
Creosotes	Polyaromatic hydrocarbons (PAHs), Polycyclic aromatics (PNAs), Phenolic Tars, Pentachlorophenol (PCP)	Wood preserving, fossil fuel combustion	Cancers and skin ulcerations with prolonged exposure
Radiation (Radionuclides)	Radium-226, Radon, Uranium-235, Uranium-238	Mine tailings, radium products, natural decay of granites	Cancer

* The potential for health effects due to these contaminants is linked to a number of factors; for example, the length and level of exposure and environmental and health factors such as age.

Sources: *Toxic Chemicals—What They Are, How They Affect You* (EPA Region 5); *Glossary of Environment Terms* (EPA, 1988)

Table 2. National Priority List Hazardous Waste Sites in Washington State

County	Nearest City	Sites	Identified Contaminants*
Benton	Richland	Hanford 100 Area–U.S. DOE	Radioactive Waste, Chromium
		Hanford 1100 Area–U.S. DOE †	Heavy Metals, Nitrates, PCBs, Sulfates, VOCs
		Hanford 200 Area–U.S. DOE	Carbon-tetrachloride, Radioactive Waste, Chloroform, VOCs, TCE
		Hanford 300 Area–U.S. DOE	Copper, PCBs, Nitrates, Radioactive Waste, VOCs
Clark	Hazel Dell	Boomsnub/Airco	Chromium, VOCs
	Vancouver	ALCOA (Vancouver Smelter) †	Cyanide, Fluoride, TCE
		BPA Ross Complex †	Heavy Metals, PAHs, PCBs, PCP, VOCs
		Frontier Hard Chrome	Heavy Metals, VOCs
		Vancouver Water Station #1	PCE
		Vancouver Water Station #4	PCE
	Brush Prairie	Toftdahl Drum †	Heavy Metals, PCBs
Franklin	Pasco	Pasco Sanitary Landfill	VOCs
Grant	Moses Lake	Moses Lake Wellfield	TCE
Island	Oak Harbor	NAS Whidbey Island–Ault Field	Heavy, Metals, Dioxin, PAHs, PCBs, Pesticides, VOCs
		NAS Whidbey Island–Seaplane †	Heavy Metals, PAHs, Pesticides
Jefferson	Indian Island	U.S. Navy–Port Hadlock Detach.	Heavy Metals, Chemicals from Naval Munitions, PCBs, Pesticides
King	Kent	Midway Landfill	Heavy Metals, PCBs, VOCs
		Seattle Municipal Landfill	Heavy Metals, VOCs
		Western Processing	Heavy Metals, PCBs, Phenols, VOCs
	Maple Valley	Queen City Farms	Heavy Metals, PCBs, VOCs
	Renton	Pacific Car & Foundry Co.	Heavy Metals, PCBs, Petroleum, Solvents
	Seattle	Harbor Island	Heavy Metals, PAHs, PCBs, VOCs
		Pacific Sound Resources	Heavy Metals, PAHs, PCP
Kitsap	Bainbridge Isl.	Wyckoff (Eagle Harbor)	Heavy Metals, Dioxins, Furans, PAHs, PCP, VOCs, PCBs
	Bangor	Bangor Disposal Site A	Cyclonite (RDX), Lead, Trinitrotoluene (TNT)
		Bangor Naval Submarine Base	Heavy Metals, Plastics, RDX, TNT, VOCs
	Bremerton	Puget Sound Naval Shipyard	Heavy Metals, PCBs, Petroleum, Semi-VOCs, VOCs
		U.S. Navy– Jackson Pk Housing C	Ammonium picrate
	Keyport	Naval Undersea Station	Heavy Metals, Petroleum, Semi-VOCs, VOCs
	Manchester	Old Navy Dump/Manchester Lab.	Asbestos, Heavy Metals, Organics, PCBs
Lewis	Centralia	Centralia Landfill	Heavy Metals, VOCs
	Chehalis	Amer. Crossarm & Conduit Co.	Dioxins, PCP
Okanogan	Loomis	Silver Mountain Mine	Arsenic, Cyanide
Pierce	Fort Lewis	Fort Lewis Landfill #5–U.S. Army †	Heavy Metals, Organics
		Fort Lewis Logistic Center	VOCs, Manganese
	Lakewood	Lakewood Site (Ponders Corner)	TCE, PCE
	McChord AFB	McChord AFB Wash/Treat Area †	VOCs, Heavy Metals
	Puyallup	Hidden Valley Landfill–Thun Fld.	Heavy Metals, VOCs

Table 2. Superfund Hazardous Waste Sites in Washington State (cont.)

County	Nearest City	Sites	Identified Contaminants*
Pierce	Tacoma	Amer. Lake Gdns/McChord AFB	VOCs
		ASARCO	Arsenic
		Comm. Bay–Nearshore/Tideflats	Heavy Metals, PAHs, PCBs, VOCs
		Comm. Bay South Channel	Heavy Metals, PAHs, VOCs
		Tacoma Landfill	VOCs
		Tacoma Swamp–So. Tacoma Field	Heavy Metals (Arsenic, Lead), PAHs, PCBs
		Tacoma Tar Pits	Heavy Metals (Lead), PCBs, Acid
Skamania	No. Bonneville	Hamilton Island Landfill (COE) †	Heavy Metals
Snohomish	Marysville	Tulalip Landfill	Heavy Metals
Spokane	Colbert	Colbert Landfill	VOCs
	Greenacres	Greenacres Landfill	Heavy Metals, Semi-VOCs, VOCs
	Mead	Kaiser Aluminum	Arsenic, Cyanide, Fluoride
	Mica	Mica Landfill	Heavy Metals, Phenols, VOCs
	Spokane	North Market St. (TOSCO Corp.)	VOCs, Petroleum
		Northside Landfill	VOCs
		Fairchild Air Force Base–USAF	Heavy Metals, Semi-VOCs, VOCs
		General Electric Apparatus	PCBs
		Old Inland Pit	Heavy Metals, VOCs
		Spokane Junkyard	Heavy Metals, PCBs
Thurston	Olympia	Palermo Wellfields	TCE
Whatcom	Bellingham	Oeser County Site ‡	PCP, PAHs
	Everson	NW Transformer–S. Harkness	Heavy Metals, PCBs
		NW Transformer–Salvage Y	PCBs
Yakima	Yakima	FMC - Farm Machinery Corp.	Pesticides
		Pesticide Lab–(USDA) Yakima †	Pesticides
		Yakima Plating Company †	Heavy Metals, Pesticides

* This list is not inclusive of all contaminants which may be found on site. Contaminants identified at sites may change as remediation on the site progresses. Please contact the appropriate state or federal agency listed below if you need additional information.

† Deleted site

‡ Proposed site

Sources: DOH/ATSDR Health Assessments; *EPA Washington National Priorities List Sites Update; current Web information*

WHOM TO CONTACT

For information on health concerns for hazardous waste sites, please contact:

Washington Department of Health

1-888-5TOXICS (586-9427) or 360-753-3859

For information on clean-up of hazardous waste sites, please contact:

Superfund Environmental Protection Agency Region 10 — 206-553-1200

State Sites Washington Department of Ecology — 360-407-7170

RISK COMMUNICATION

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Communicating risk

What influences risk perception? According to Peter Sandman, PhD, director of Rutgers University's Environmental Communication Research Program, "Lay citizens focus on risks that frighten or anger them—risks that they see as involuntary, unfamiliar, uncontrollable."

How lay people see risks

A few basic psychological principles govern how lay people see risk. First, in coping with the multitude of facts and values necessary in modern life, people try to simplify the complexities into "safe" or "unsafe," "good" or "bad."

Second, once they've made up their minds, people are reluctant to change them. Third, people remember what they see. Because they're good at observing the events that come to their attention, their first impressions are likely to be correct if the appropriate facts reach them before they make up their minds. But, the fourth point, people can't readily detect omissions in the evidence they receive. If, for instance, a physician doesn't tell a patient of a medication's side effects, the patient is unlikely to think of asking about them. If, in a dispute over siting a hazardous waste incinerator, a speaker uses a selective presentation of facts, he or she can manipulate citizens' risk perceptions—for a time. Once citizens detect a deliberate omission, however, they are very slow to trust the source again. Fifth, people tend to disagree more about what risk is than about how great it is.

Finally, especially in risk disputes between communities, industries, and government, people have a great deal of difficulty in detecting inconsistencies. Because many risk debates take place only in public hearings where opponents have little chance to discover basic differences in how they define such issues as the meaning of key terms, proponents of two sides of a debate can easily misinterpret each other's beliefs.

People are also insensitive to the fact that the way risks are presented can change their perceptions. "Their perceptions are influenced by a number of factors," Sandman observes. "Verbal cues are important: A pollutant that will give cancer to 10,000 people sounds serious; one that will add less than one-tenth of one percent to the national cancer rate sounds almost negligible. Social context is a factor. Do we like or dislike, trust or distrust the people or institutions whose decisions are putting us at risk?"

Communicating with a patient

A patient who has or who may have been exposed to an environmental or occupational hazard is likely to be both frightened and angry. Except for smoking and radon, most such exposures represent involuntary risks, risks the patient is likely to feel were imposed on him unfairly. In the case of an environmental contaminant, the patient may also be morally outraged: As Sandman says, "Over the past few decades, our society has reached near consensus that pollution is morally wrong—not just harmful or dangerous, not just worth preventing where practical, but *wrong*.

Thus, the most important first step in treating a patient is to listen and to take the concern seriously. Even if you believe or learn that the exposure was not significant, the patient will benefit from your empathy and reassurance.

The most important first step in treating a patient is to listen and to take the concern seriously

To build the patient's trust, it's necessary to be very candid about the limits of what we know about an environmental or occupational exposure. Of the 60,000 chemicals registered for market, only a small number have been thoroughly evaluated for health effects. Thus, you may have to tell a patient that no studies have been done on the chemical that concerns her. In other cases, you may have to help interpret risk estimates. In doing so, use clear, everyday language. In the proceedings of the National Conference on Risk Communication, Vernon Houk, MD, Director, Center for

Environmental Health and Injury Control, Centers for Disease Control, advises, "One of the ways we can have trust from people is to speak in terms that they can understand. Scientists frequently become so scientifically precise that no one knows what they're talking about."

Scientists frequently become so scientifically precise that no one knows what they're talking about

Stephen McCurdy, MD, University of California at Davis, suggests speaking in terms of likelihood." For example, a patient concerned about a one-time exposure to asbestos can be advised that the likelihood of developing lung cancer as a result is negligible. Although asbestos is a carcinogen and, in theory, a single fiber might cause lung cancer, in fact, risk is concentrated in workers with decades of heavy exposure. Among these, smokers have the greatest risk."

Communicating with the general public

When a community faces an environmental risk, a local physician may become involved, either as an advocate or spokesperson for a citizen's group, or as an independent local reviewer of information supplied by industry or government. In such a situation, you'll probably find that citizens are facing a host of problems: These include a lack of data, conflicting interpretations of the available data, limited government authority to reduce risks, and limited understanding from both government authorities and industry about what citizens fear, value, or want. What people want in such a situation is to be told about potential risks.

The problem is that, as the National Research Council's study, *Improving Risk Communication*, points out, "Although there are actual risks, nobody knows what they are. "As the discussion of risk assessment illustrated, the assertions typically called actual risks involve a number of assumptions, and thus, an element of judgment and even values. In this light, the National Research council report observes, the conflict between actual and perceived risk may also be called a conflict between the risk perceptions of scientists working within their areas of expertise and the risk perceptions of anyone else.

When citizen's groups debate with experts over some environmental risk, the two groups often are speaking different language and solving different problems. While most experts estimate risks in terms of yearly fatality rates, for instance, lay citizens' estimates of risk not only include these judgments, but include a technology's catastrophic potential or how equitably a risk is distributed. Debates over substance, such as whether a risk assessment is accurate, may really be a disguise for a debate over form, such as whether the agenda at a public meeting really addresses the citizens' concerns. A meeting to discuss which energy source to adopt, for example, may ignore a citizen's conviction that the real issue is one of reducing energy use.

The most reasonable assumption to make about citizens' involvement in environmental problems, the NRC says, is that they are unlikely to get involved unless they feel they can make a difference. If they neglect a hazard that poses a large risk, it may be because they perceive that the hazard is necessary and has no substitute or riskier substitutes, that no feasible scientific study can offer a clear signal to action, that the hazard is natural and thus, not controllable, that no one else is worried and so won't heed messages about its danger, or that no one can act on the basis of the evidence about the risk. Thus, says the NRC, differing priorities between experts and lay people may reflect, not disagreements about the sizes of risks, but disagreements about what can be done about them.

Differing priorities between experts and lay people may reflect, not disagreements about the sizes of risks, but disagreements about what can be done about them

In other cases, the NRC points out, lay people and experts simply see the facts differently. Sometimes, the experts' messages reach the public incompletely, or are garbled in transmission or reception. In other cases, citizens confuse the amount of scientific attention paid to a risk with its importance—they don't realize, for instance, that funding, not the actual importance of a risk, can influence

whether investigators study it. Sometimes, citizens are confused by the disagreements that are part and parcel of the scientific process. Other times, lay citizens simply understand the risk better than the experts do. Examples in the NRC report include the MacKenzie Valley Pipeline Inquiry, in which Arctic natives knew more about the risks of ice-pack movements and sea-bed scouring than the engineers who planned the pipeline, and analyses of industrial accidents that showed that machine operators knew of flaws and operating problems that the machine designers had missed. In such cases, you may be able to use your professional standing to help citizens make their case to the experts more effectively.

Formula for Risk Communication

Perception = Reality
Communication = Skill
Goal = Trust + Credibility

Are there rules of thumb for communicating risk to the public? Some helpful guidelines for government and industry spokespeople, developed by Vincent Covello and Frederick Allen for the EPA's Office of Policy Analysis, have been summarized in the American Chemical Society's booklet, *Chemical Risk Communication*. Because they illustrate some general principles of communication, they may offer some useful guidance to physicians involved in a community dispute, as well. In brief, they suggest:

Accept and involve the public as a legitimate partner. People have a right to participate in decisions that affect their lives, property, and values.

Listen to your audience. If people think you're not listening, they won't listen to you or trust what you have to say. Don't make any assumptions about what people know or want to know. Citizens are often more interested in whether a risk is familiar, easy to control, or fair. Are they being asked to assume a risk without benefitting? Is the risk being imposed on them involuntarily?

Assess and nurture your own credibility. Credibility is hard to earn, easy to lose, and almost impossible to regain. Failure to deliver on promises or commitments is the fastest way to lose it.

Plan carefully before communicating and evaluate your performance. Different objectives, audiences, and media channels may require different communication strategies.

Be honest, frank, and open. If you don't know the answer to a question, admit your ignorance or uncertainty. Get back to people with answers. Admit your mistakes.

Speak clearly and with compassion. People can understand even complex scientific subjects if they are explained in clear, everyday language. Scientific jargon confuses most people and may erode the trust of a general audience. Acknowledge and respond to the feelings that people express.

Coordinate and collaborate with other credible sources.

Meet the needs of the news media. You can help reporters by tailoring information to the needs of their particular medium, such as providing visuals for television, and offering background information that will help lay people to understand the issues.

The guidelines recognize a new reality. As former EPA Administrator Lee Thomas remarked several years ago at the National Conference on Risk Communication, "We will never return to the days when we were content to let people in white coats make soothing noises. Citizens must share directly in decisions that affect them, and we must ensure that they do so with a fuller understanding of the inevitable tradeoffs involved in the management of risk."

A physician who gets involved in a dispute over environmental risk holds a distinct advantage: the trust of many citizens. If you understand environmental issues, you may be in a unique position, whether as an advocate or an educator, to help your patients or your community take part in decisions that affect their lives.

Your patient's view of risk is modified by:

- Fairness of the risk distribution
- Significant benefits versus costs
- Quality of alternatives
- Extent to which the risk can be controlled
- His or her ability to accept or reject the risk
- Familiarity

Questions & Answers

This set of questions and answers is provided to assist health care providers communicate environmental health risk information to patients. Answers provided are not intended to be the definitive response to an environmental health question, but rather to present a general approach to some common questions.

How can my family be exposed to toxic chemicals?

Toxins can enter your body in three ways:

- Your lungs—from the air you breathe
- Your digestive tract—from the food you eat, liquids you drink, or particles of soil or air that you swallow
- Your skin—from the substances you touch or the water you wash in.

The amount of your actual exposure is determined by the concentration of the substance in the environment, how long the contact lasts, and how often the exposure occurs.

Will exposure to a hazardous substance make me sick?

Health effects occur when a hazardous substance enters the body and causes damage or changes to systems such as blood, liver, or kidneys. Some substances pass through the body without doing damage; some chemicals are detoxified in the body; and some chemicals are stored in body fat, bones or other organs. Whether or not a person will become ill after an exposure, as well as the type and severity of health problems that may occur, depend on several factors. These factors include:

- General health of the exposed person
- The type of chemical it is
- Amount of chemical exposure
- Age, sex, weight, ethnic background, and genetic factors
- Personal habits such as cigarette smoking, medication use, or alcohol consumption
- Previous chemical exposures
- Individual reaction to the chemical.

What is the difference between "acute" and "chronic" symptoms caused by exposure to toxic chemicals?

Some health effects show up immediately or soon after exposure to a chemical. These acute effects may include irritation of eyes, nose, throat, and lungs; dizziness; or headaches. It is often difficult to determine the exact cause of these health problems since the symptoms may be due to causes other than exposure to toxic chemicals.

Long-term health effects may not show up for months or years after an exposure. Examples of chronic health effects are cancer, birth defects, immune system problems and reproductive problems. It is difficult to determine the exact cause of these health problems. For example, cancer may be "caused" by chemical exposure, smoking, diet or other factors.

Unfortunately, in many cases, our scientific and medical knowledge is not good enough for us to say whether hazardous substance exposure caused certain symptoms or not. That is especially true for chronic health problems.

What are the hazardous substances at Superfund sites?

There are over 275 different hazardous substances identified at Superfund sites in the U.S. The substances include:

- Heavy metals (lead, cadmium, arsenic)
- Organic compounds (solvents, oils, paints, varnishes)
- Pesticides/herbicides (DDT, chlordane, endrin)
- Polychlorinated biphenyls (PCBs)
- Polyaromatic hydrocarbons (PAHs)
- Radionuclides (uranium, radon, radium)

General information is available on the hazardous substances at each Washington Superfund site. See pages 40–42, for further information.

What do the health studies reveal about my health risk?

Exposure studies measure the level of chemicals in people or examine the health of individuals. These studies can help determine the current health status of people, but can not tell whether a particular hazardous waste site is the cause of the problem or whether there will be future health effects.

Epidemiologic studies look at disease and health patterns in specific groups of people. In the process of describing disease patterns, epidemiologic studies may help identify new clinical syndromes, refine disease classifications, or identify factors that are associated with a high risk of developing a particular condition.

Health risk assessments estimate the probability of human illness occurring from exposure to hazardous substances. These risk assessment numbers come from laboratory tests as well as epidemiologic studies. The numbers involve many assumptions and only estimate how much an exposure may affect health in a population. There is no way to determine which individuals, if any, will actually get sick.

Is there a medical test available to determine if I have been exposed to hazardous chemicals?
Medical tests are available to look for some hazardous substances. For example, there is a blood test which can measure lead, and a urine test for cadmium levels. For other substances it is possible to look at potential health effects—such as liver and kidney function, cancer screening, and tests of the immune system. Medical tests are not available for all substances. Some chemicals do not remain long enough in the body to be seen.

The health history that you give to your health care provider should include information about current and previous occupations, potential exposure to hazardous waste sites, and hobbies. Certain medical tests may determine if illness symptoms could be the result of exposure to hazardous substances. However, it is often impossible to determine a definite cause-effect relationship.

Is the water safe to drink?
Some chemicals can get into surface or ground water. Municipal water supplies near hazardous waste sites are generally tested and monitored for the chemicals found at the site. You can check details about your water with your water supplier. Private water wells are not always tested by the government, and there may be contamination. You may want to have your individual drinking water well tested. You can contact your County Health District or the State Department of Health Drinking Water Program for advice.

I live near a Superfund site. Is it safe for my kids to play outdoors?
Superfund sites are generally fenced so that people, especially children, will not have direct exposure to the hazardous substances located on the site. Do not allow children or pets to play inside the fenced area.

How can I protect myself?

- Seek out more information about the hazardous waste sites in your neighborhood.
- Decrease your exposure to all hazardous chemicals in your home and environment including household cleaners, pesticides, combustion products.
- Follow proper workplace guidelines to limit your exposure to hazardous substances at your job. Also, limit the exposure of family members to workplace chemicals which might remain on your skin or clothing.
- Understand the risks of the substances you use at work or in hobbies such as furniture refinishing, gardening, arts and crafts projects. Use all chemicals properly, provide adequate ventilation, and store the chemicals properly.
- Pay attention to your diet. Your diet is one possible way of being exposed to hazardous substances. Some studies also suggest that certain dietary components reduce or increase the risks of certain diseases. And studies suggest that healthier people are better able to resist harm from hazardous substances.
- Avoid exposure to environmental tobacco smoke. And if you smoke, quit.
- Restrict your consumption of alcohol. Many chemicals are changed to non-toxic substances by the liver. Alcohol may harm the liver and reduce your body's ability to handle hazardous chemicals.

How can my health care provider help me?
In addition to ensuring you receive any needed medical treatment, your health care provider can advise you on how best to prevent exposures from occurring in the future and if needed, can monitor your health over the coming years.

What is being done to protect my family and community from exposures to hazardous substances?

The Environmental Protection Agency (EPA) is involved in the clean-up process at all of the Superfund sites in Washington. Both the Washington Departments of Ecology and Health frequently work with the EPA to ensure that Superfund and other hazardous waste sites in the state do not pose health or environmental risks to communities around them. The federal Agency for Toxic Substances and Disease Registry (ATSDR) and the Department of Health conduct health studies and examine health problems around hazardous waste sites. The Department of Labor and Industries has an important role in ensuring that work places are safe for all workers.

A wide variety of non-governmental organizations are actively working to protect individuals and communities from environmental health hazards. There are many opportunities for involvement locally, statewide, nationally and internationally.

Aside from my health care provider, where can I find more information?

For information about health concerns associated with exposure to hazardous substances:

Your Local Health Department, Environmental Health Division (list begins on page 25.)

Washington Department of Health
Office of Toxic Substances 360-586-5401
Division of Drinking Water Programs 360-586-0469
Division of Radiation Protection 360-753-3469

For information about health concerns related to specific hazardous waste sites:

Washington Department of Health, Federal/State Sites 360-753-3859

Agency for Toxic Substances and Disease Registry 404-639-6000

For information about remediation and clean-up of hazardous waste sites:

Superfund: Environmental Protection Agency Region 10 800-424-4372

Other Sites: Washington State Department of Ecology 360-649-7000

For information about exposures to hazardous substances at work:

Washington Department of Labor & Industries field locations

Everett 425-290-1300
Kennewick 509-753-0100
Longview 360-577-2200
Mount Vernon 360-416-3000
Seattle 206-281-5400
Spokane 509-324-2543
Tacoma 253-596-3800
Tukwila 206-248-8240
Tumwater 360-902-5464
Vancouver 360-896-2300
Wenatchee 509-886-6500
Yakima 509-454-3700

LABORATORIES

The following lists of laboratories are presented for information purposes only. These lists may not be complete. You may wish to contact other analytical laboratories in your area. Additional listings may be found in the Yellow Pages of your phone directory under "Laboratories – Analytical." Presence on a list does not constitute an endorsement of the laboratory or a preference over other laboratories that may conduct this service.

State Public Health

DOH Public Health Laboratory
1610 NE 150th Street
Seattle, WA 98155-7224

Laboratories Certified to Test for Lead in Public Drinking Water as per the New Lead and Copper Rule Promulgated on June 7, 1991

AAA Superior Lab
16924 S Curtis Rd
Cheney, WA 99004
Cheryl J. Blake

Anatec
E 1514 Sprague Ave
Spokane, WA 99202
509-535-9791
Robin Woods, Lab Director

AM Test, Inc
14603 NE 87th Street
Redmond, WA 98052
425-885-1664
Mark Fugiel, Tech/General Dir

Analytical Resources, Inc
333 Ninth Ave N
Seattle, WA 98109-5187
206-621-6490
Kate Stegemoeller, QA Manager

Aquatic Research, Inc
3927 Aurora Ave N
Seattle, WA 98103
206-632-2715
Steve Lazoff

Avocet Environmental Testing
1500 N State St
Bellingham, WA 98225
360-734-9033
Howard Cockerham, Lab Dir

Cascade Analytical Services
3640 S Cedar, Suite M
Tacoma, WA 98409
253-472-6909
Juin TeVrucht, Tech Spvsr

Cascade Analytical, Inc
3019 GS Center Rd
Wenatchee, WA 98801
509-662-1888
David Lane, Lab Spvsr

Columbia Analytical Services
1317 S 13th Ave/PO Box 479
Kelso, WA 98626
360-577-7222
Abbie Spielman

Everett Environmental Labs
3200 Cedar St
Everett, WA 98201
425-257-8220
Robert Waddle, Lab Dir

Inland Environmental Lab
E 16810 Euclid Ave
Spokane, WA 99216
509-928-5651
Kurt Larsen, Chief Chem

Jaco Analytical Lab
10312th Ave SW/PO Box 635
Ephrata, WA 98823
509-754-5725
Glenda Nelson, Lab Dir

Laucks Testing Labs
940 S Harney St
Seattle, WA 98108
206-767-5060
Karen Kotz, Lab Spvsr

Laucks Testing Lab-Yakima
1106 Ledwich
Yakima, WA 98902
509-248-4695
Tamis Root, Lab Spvsr

Material Testing & Consulting
1151 Knudson
Burlington, WA 98233
Larry Henderson, Lab Dir

North Creek Analytical
18939 20th Ave NE, Suite 101
Bothell, WA 98011
425-481-9200
Scot Cocanour, Dir

Orion Laboratories
34004 9th Ave S, #5 Bldg A
Federal Way, WA 98003
253-952-6717
Donna McNeil

Palouse Data Labs, Inc
Rt 1, Box 129
Colfax, WA 99111
509-397-3478
Abdul Ahad

Philip Analytical Services Co. Environmental Lab
8577 Commerce Ct
Burnaby, BC Canada VIN5
604-444-4808
Dorothy A. Jeffery, QA/C Officer

Precision Analytical, Inc
2345 NE Hopkins Ct
Pullman, WA 99163
A Azim Khan

Seattle Water Department
1509 S Spokane St
Seattle, WA 98144
206-684-7404
Brian Hoyt, Tech Sup
No Commercial Samples

Sound Analytical
4813 Pacific Hwy E
Tacoma, WA 98424-4813
253-922-2310
Tom Boyden

Spectra Labs, Inc
2221 Ross Wy
Tacoma, WA 98421
253-272-4850
Steve Hibbs, QA

Walla Walla, City of
Water Ouality Control
571 Hatch St/Rt 5 Box 79
Walla Walla, WA 99362
509-527-4509
Don Caldwell, Superintendent

Washington Public Power Supply System
PO Box 968, Mailstop 1025
Richland, WA 99352
509-377-8462
T.E. Northstrom

Washington State Department of Health
Environmental Chemistry Lab
1610 NE 150th St
Seattle, WA 98155-7224
206-361-2898
Pamela Navaja, Tech Sup

Water Management Labs, Inc
1515 80th Street E
Tacoma, WA 98404
253-531-3121
George Schonhard, Tech Sup

Weyerhaueser Analytical
32901 Weyerhaeuser Wy S
Federal Way, WA 98003
253-924-6242
Kari Doxsee, Lab Dir

Industrial Hygiene Labs

Boeing Industrial Hygiene Lab
Mail Stop 8H-08
PO Box 3707
Seattle, WA 98124-2207
206-773-1481
Attn: Christopher Kirk, CIH, Director

Clayton Environmental Consultant
4636 East Marginal Way South, Suite 215
Seattle, WA 98134
206-763-7364
Michael W. Krause, CIH, Director

Puget Sound Naval Shipyard
Laboratory Division, Code 134.3
Bremerton, WA 98314
360-476-8092
Michael Heaton, Director

State of Washington
Dept. of Labor & Industries
Industrial Hygiene Laboratory
805 Plum Street, First Floor
Olympia, WA 98504
360-902-5130
Phillip M. Peters, Director

University of Washington
Environmental Health Laboratory
F461 Health Sciences Bldg. (shipping)
Box 357234
Seattle, WA 98195-7234
206-543-4253
Ralf Hahne, Lab Spvsr

Asbestos Sampling and Analysis

Seattle and Vicinity:
AM Test, Inc. (Redmond) 206-885-1664
ASA–American Services, Inc. .. 206-641-5130*
Microlab NW (Redmond) 206-885-9419
OMS Laboratories 206-622-8353

Spokane:
Mountain Laboratories 509-924-9236
2310 N Cherry, Suite 100B
Spokane, WA 99216
MCS Environmental 509-924-9236

Portland:
Braun Intertec 503-289-1778
CHASC Consultant, Inc. 503-245-8381
Coffey Laboratories 503-254-1794
Portland Chemical Miscoscopy 503-289-1564

* Sampling only

Lead Analysis

The Washington State Public Health Laboratories, 1610 NE 150th Street, Seattle, WA 98155, can perform lead anlayses. For information about the collection and shipment of samples contact the laboratory at 206-361-2898. If another laboratory is desired for the analyses, please read the following information.

Blood Analysis: The Washington State Department of Health (DOH) does not presently certify laboratories to do blood lead analysis. Physicians should verify that the laboratory chosen participates in a creditable "certification" or quality control program for blood leads. Procedures for the collection and shipment of samples should be obtained from the individual laboratory doing the analysis. DOH does not recommend one laboratory over another. The cost for analysis of a sample is generally $20–$30.

Paint Chip and Soil Lead Analyses: DOH does not presently certify laboratories to do these analyses. It is suggested that persons desiring these analyses contact one of the laboratories certified to do drinking water or consult a laboratory listed in their telephone book. Procedures for the collection and shipment of samples should be obtained from the individual laboratory doing the analysis. DOH does not recommend one laboratory over another. The cost for analysis of a sample is generally $20–$30.

Formaldehyde Sampling & Analysis

Seattle and Vicinity:
AM Test, Inc. (Redmond) 206-885-1664
ASA–American Services Assoc. 206-641-5130
Blue Sky Testing Labs 206-721-2583
Envirotest Research 206-522-5449
OMS Labs 206-622-8353
Prezant Associates 206-281-8858

Spokane:
MCS Environmental 509-924-9236

Portland:
Coffey Laboratories, Inc. 503-254-1794
M.E.I. Charlton Laboratories .. 503-228-9663
CHASC Consultant 503-245-8381

LABS

COMPUTERIZED INFORMATION SERVICES*

The development of electronic databases has revolutionized the retrieval of up-to-date, accurate, and comprehensive information on hazardous exposures. Databases are commonly accessed through (1) on-line retrieval of information, (2) floppy disk, or (3) CD-ROM (Compact Disk-Read Only Memory). The advantage of the on-line system is that information obtained is current. Furthermore, this system provides the greatest versatility and is most comprehensive in obtaining different kinds of information because several databases can be cross-searched.

NLM Databases and Databanks

Medical Literature Analysis and Retrieval System (MEDLARS®) is the computerized system of databases and databanks offered by the National Library of Medicine (NLM). A person may search the computer files to produce a bibliographic list of publications or to retrieve information on a specific question. MEDLARS comprises two computer subsystems, ELHILL® and TOXNET®, on which reside over 40 databases containing 18 million references.

Toxicology Data Network (TOXNET)
The Toxicology Data Network (TOXNET) is a computerized system of files oriented to toxicology and related areas. The following files are currently included in TOXNET:

Hazardous Substance Data Bank (HSDB)
This toxicology database was developed by NLM and ATSDR. It is a factual, peer-reviewed database of more than 4200 chemicals. Records are in 12 different information categories: substance identification, manufacturing/use, chemical/physical properties, safety and handling, toxicity, biomedical effects, pharmacology, environmental fate/exposure summary, exposure standards and regulations, monitoring and analysis methods, additional references, and express data. HSDB includes annotated medical treatment information derived from the Poisindex database. This database, which is funded by ATSDR, is currently being revised into a menu-driven, user-friendly resource to increase its utility.

Registry of Toxic Effects of Chemical Substances (RTECS)
This database provides information on more than 100,000 potentially toxic chemicals and includes toxicity data, chemical identifiers, NTP test status and exposure standards. RTECS is built and maintained by NIOSH.

Chemical Carcinogenesis Research Information System (CCRIS)
This resource provides scientifically evaluated data from carcinogenicity, mutagenicity, tumor-promotion, and tumor-inhibition tests on 2100 substances that have been evaluated according to criteria and protocols widely accepted by experts in carcinogenesis.

Toxic Chemical Release Inventory (TRI)
The TRI was created by NLM and the Environmental Protection Agency (EPA). It is a record of estimated releases to the environment reported by industries of more than 300 toxic chemicals based on information collected by EPA.

The Integrated Risk Information System (IRIS)
IRIS is an EPA database that contains chemical-specific information on more than 370 chemicals. It contains information on reference doses, carcinogenicity, drinking water health advisories, risk management, and supplementary data.

COMPUTER INFO

* The use of trade names is for identification only and does not imply endorsement.

Environmental Teratology Information Center Backfile (ETICBACK)
ETICBACK is a bibliographic database containing more than 49,000 citations to publications concerning teratology and developmental toxicology. It contains publications dating from pre-1950 through 1988. This database was produced by Oak Ridge National Laboratory in Oak Ridge, Tennessee. ETICBACK is continued in the Developmental and Reproductive Toxicology Database (DART) database.

Developmental and Reproductive Toxicology Database (DART)
DART is a bibliographic database containing citations to literature published on birth defects and other aspects of reproductive and developmental toxicology since 1989. The file currently contains more than 1500 records. Plans call for the addition of approximately 3600 records each year. DART is a continuation of the ETICBACK file. DART is funded by National Institute of Environmental Health Sciences (NIEHS) and EPA.

Environmental Mutagen Information Center (EMIC)
EMIC is a bibliographic database on chemical, biologic, and physical agents that have been tested for genotoxic activity. It contains citations from literature after 1988. The database is produced by the Oak Ridge National Laboratory in Oak Ridge, Tennessee, and is funded by the federal government.

Environmental Mutagen Information Center Backfile (EMICBACK)
This is the backfile for the Environmental Mutagen Information Center (EMIC) database.EMICBACK is a bibliographic database on chemical, biologic, and physical agents that have been tested for genotoxic activity. It contains approximately 71,000 citations from literature published from 1950 through 1988. The database is produced by the Oak Ridge National Laboratory in Oak Ridge, Tennessee, and is funded by the federal government.

Directory of Biotechnology Information Resources (DBIR)
DBIR is a multicomponent data bank containing information on a wide range of resources related to biotechnology. The resources include on-line databases and networks, bulletin boards, organizations, collections, and publications such as books and compendiums. The DBIR file currently contains 1400 records.

Other Databases

The National Library of Medicine also offers the following databases:

Toxicology Information On-Line (TOXLINE/TOXLIT) is designed specifically to offer comprehensive bibliographic coverage of toxicology information. It includes the pharmacologic, biochemical, physiologic, environmental, and toxicologic effects of chemicals and drugs. Sixteen subfiles containing approximately 2.5 million references can be searched. Subfiles are from Chemical Abstracts, Biological Abstracts, International Pharmaceutical Abstracts, and others. TOXLINE is available through the NLM MEDLARS System.

MEDLINE is the database used by most healthcare practioners. It is the on-line version of Index Medicus. It is a bibliographic database that indexes more than 3200 journals published in the United States and abroad. It can be accessed easily through the menu-driven Grateful Med software.

Other On-Line Systems include the following databases:

Chemical Abstracts database provides worldwide information about chemical sciences, patents, books, conference proceedings, government research reports, and literature from more than 12,000 journals.

NIOSH Technical Information Center (NIOSHTIC) is a compilation in abstract form of information about toxicology, epidemiology, industrial hygiene, and other areas of occupational safety and health. It is produced by the National Institute for Occupational Safety and Health.

Hazardline provides emergency response, safety, regulatory, and health information on more than 4000 chemicals. It is produced by Occupational Health Services. Hazardline contains an extensive companion file on Material Safety Data Sheets (MSDS).

Reproductive Toxicology (Reprotox) includes information on reproductive toxicology. It is an inexpensive database, easy to search, providing a beginning for more extensive evaluation of toxic exposures.

National Pesticide Information Retrieval system (NPIRS) contains registration information on 45,000 pesticides registered by EPA and the states. It includes specific information about the chemicals, studies, and related documents submitted to EPA by companies seeking registration.

Compact Disk—Read Only Memory Systems
The Compact Disk—Read Only Memory (CD-ROM) systems use a compact disk reader and a computer software package to read the information on a compact disk. Because the CD-ROM databases are generally updated quarterly, the information is not as current as that obtained from on-line searches. Two of the better known CD-ROM producers are Micromedex and SilverPlatter. Micromedex products include Poisindex and Tomes. SilverPlatter products include Chem-Bank, OSH-ROM, and PEST-BANK. (For a complete listing of environmental health databases and vendors see *Environment Online…the Greening of Databases* published by Online, Inc.; Wilton, CT; ISBN 0-910965-05-6.)

Micromedex developed the **Poisindex CD-ROM** System used in poison control centers. Poisindex contains toxicology information on drugs and consumer products.

The **TOMES-PLUS System (Toxicology, Occupational Medicine and Environmental Series Information System)** provides toxicology information about acute and chronic exposure to occupational and environmental chemicals. The **TOMES-PLUS** System includes the following: **TOMES,** which consists of 3 modules (1) Meditext: detailed information on the evaluation and treatment of persons exposed to industrial chemicals. OSHA Permissible Exposure Limits (PEL) information is also supplied. (2) Hazardtext: information on spills, leaks, and fires that may occur in hazardous materials incidents. (3) Department of Transportation Emergency Response Guides; the Hazardous Substances Data Bank (HSDB); the U.S. Coast Guard's Chemical Hazard Response Information System (Chris); the Oil and Hazardous Materials/Technical Assistance Data System (OHM-TADS); and the protocols for first accident/injury/illness response.

SilverPlatter has various CD-ROM disks of toxicology information. Compact disks available include the following: **CHEM-BANK**, which includes the Registry of Toxic Effects of Chemical Substances (RTECS), the Oil and Hazardous Materials–Technical Assistance Data System (OHMTADS), the Chemical Hazard Response Information System (CHRIS), and the Hazardous Substance Date Bank (HSDB).

OSH_ROM includes the NIOSH Technical Information Center (NIOSHTIC), the HSALINE database of the Health and Safety Executive (U.K.) and CISDOC, from the International Labor Organization. The Major Hazard Incident Data Service provides information on more than 3000 major accidents involving chemicals.

PEST-BANK contains information on the U.S. registered pesticides used in agriculture industry and general commerce. The information comes from the National Pesticide Information Retrieval System (NPIRS). It contains information on the synonyms, registration dates and registering companies, composition and formulation, sites, and pests affected by the pesticide.

TOXLINE contains toxicologic information from NLM that includes references to published materials on topics such as drugs, food, chemicals, occupational hazards, pesticides, and toxicologic analysis.

MEDLINE contains bibliographic citations and abstracts of biomedical literature.

Using the Exposure History Form

A work and exposure history has three components: *Exposure Survey, Work History*, and *Environmental History*. The main aspects of an exposure history (summarized in Table 2) will be elicited through the exposure history form. Although a positive response to any question on the form indicates the need for further inquiry, a negative response to all questions does not necessarily rule out a toxic exposure etiology or significant previous exposure.

All patients should complete exposure history forms, although the form need not be evaluated extensively in every clinical situation. As in all data-gathering activities, sound clinical judgment must be exercised.

Table 2. Components of an exposure history

Part 1. Exposure Survey

A. Exposures

Current and past exposure to metals, dust, fibers, fumes, chemicals, biologic hazards, radiation, noise, vibration
Typical work day (job tasks, location, materials, agents used)
Changes in routines or processes
Other employees or household members similarly affected

B. Health and Safety Practices at Worksite

Ventilation
Medical and industrial hygiene surveillance
Employment exams
Personal protective equipment (e.g., respirators, gloves, coveralls)
Lockout devices, alarms, training, drills
Personal habits (Smoke, eat in work area? Wash hands with solvents?)

Part 2. Work History

Description of all prior jobs including short-term, seasonal, part-time employment and military service
Description of present job(s)

Part 3. Environmental History

Present and prior home locations
Jobs of household members
Home insulating, heating and cooling system
Home cleaning agents
Pesticide exposure
Water supply
Recent renovation/remodelling
Air pollution, indoor and outdoor
Hobbies: painting, sculpting, welding, woodworking, piloting, autos, firearms, stained glass, ceramics, gardening
Hazardous wastes/spills exposure

Exposure History Form

Part 1. Exposure Survey

Name: _____ **Date:** _____

Please circle the appropriate answer.

Birthdate: _____ **Sex:** **M** **F**

1. Are you currently exposed to any of the following?

   metals
   no *yes*

   dust or fibers
   no *yes*

   chemicals
   no *yes*

   fumes
   no *yes*

   radiation
   no *yes*

   loud noise, vibration, extreme heat or cold
   no *yes*

   biologic agents
   no *yes*

2. Have you been exposed to any of the above *in the past?*
   no *yes*

3. Do any household members have contact with metals, dust, fibers, chemicals, fumes, radiation, or biologic agents?
   no *yes*

If you answered *yes* to any of the items above, describe your exposure in detail—how you were exposed; to what you were exposed. If you need more space, please use a separate sheet of paper.

4. Do you know the names of the metals, dusts, fibers, chemicals, fumes, or radiation that you are/were exposed to?
   no *yes*

   If *yes*, list them below.

5. Do you get the material on your skin or clothing?
   no *yes*
6. Are your work clothes laundered at home?
   no *yes*
7. Do you shower at work?
   no *yes*
8. Can you smell the chemical or material you are working with?
   no *yes*
9. Do you use protective equipment such as gloves, masks, respirator, hearing protectors?
   no *yes*

   If *yes*, list the protective equipment used.

10. Have you been advised to use protective equipment?
    no *yes*
11. Have you been instructed in the use of protective equipment?
    no *yes*
12. Do you wash your hands with solvents?
    no *yes*
13. Do you smoke at the workplace? *no* *yes*
    At home? *no* *yes*
14. Do you eat at the workplace?
    no *yes*

Developed by ATSDR in cooperation with NIOSH, 1992.

15. Do you know of any coworkers experiencing similar or unusual symptoms?
no *yes*

16. Are family members experiencing similar or unusual symptoms?
no *yes*

17. Has there been a change in the health or behavior of family pets?
no *yes*

18. Do your symptoms seem to be aggravated by a specific activity?
no *yes*

19. Do your symptoms get either worse or better at work?
no *yes*

at home?
no *yes*

on weekends?
no *yes*

on vacation?
no *yes*

20. Has anything about your job changed in recent months (such as duties, procedures, overtime)?
no *yes*

If you answered *yes* to any of the questions, please explain.

Exposure History Form

Part 2. Work History

A. Occupational Profile

Name: _____

Birthdate: _____ **Sex:** **M** **F**

The following questions refer to your current or most recent job:

Job title: _____

Type of industry: _____

Name of employer: _____

Date job began: _____

Are you still working in this job?

Yes No

If no, when did this job end? _____

Describe this job:

_____

_____

_____

_____

_____

Fill in the table below listing all jobs you have worked including short-term, seasonal, part-time employment, and military service. Begin with your most recent job. Use additional paper if necessary.

Dates of Employment	Job Title and Description of Work	Exposures*	Protective Equipment

*List the chemicals, dusts, fibers, fumes, radiation, biologic agents (i.e., molds, viruses) and physical agents (i.e., extreme heat, cold, vibration, noise) that you were exposed to at this job.

Have you ever worked at a job or hobby in which you came in contact with any of the following by breathing, touching, or ingesting (swallowing)? If yes, please check the box beside the name.

- ☐ Acids
- ☐ Alcohols (industrial)
- ☐ Alkalies
- ☐ Ammonia
- ☐ Arsenic
- ☐ Asbestos
- ☐ Benzene
- ☐ Beryllium
- ☐ Cadmium
- ☐ Carbon tetrachloride
- ☐ Chlorinated naphthalenes
- ☐ Chloroform
- ☐ Chloroprene
- ☐ Chromates
- ☐ Coal dust
- ☐ Dichlorobenzene
- ☐ Ethylene dibromide
- ☐ Ethylene dichloride
- ☐ Fiberglass
- ☐ Halothane
- ☐ Isocyanates
- ☐ Ketones
- ☐ Lead
- ☐ Manganese
- ☐ Mercury
- ☐ Methylene chloride
- ☐ Nickel
- ☐ PBBs
- ☐ PCBs
- ☐ Perchloroethylene
- ☐ Pesticides
- ☐ Phenol
- ☐ Phosgene
- ☐ Radiation
- ☐ Rock dust
- ☐ Silica powder
- ☐ Solvents
- ☐ Styrene
- ☐ Talc
- ☐ Toluene
- ☐ TDI or MDI
- ☐ Trichloroethylene
- ☐ Trinitrotoluene
- ☐ Vinyl chloride
- ☐ Welding fumes
- ☐ X rays
- ☐ Other (specify)

Developed by ATSDR in cooperation with NIOSH, 1992.

B. Occupational Exposure Inventory *Please circle the appropriate answer.*

1. Have you ever been off work for more than one day because of an illness related to work?	*no*	*yes*
2. Have you ever been advised to change jobs or work assignments because of any health problems or injuries?	*no*	*yes*
3. Has your work routine changed recently?	*no*	*yes*
4. Is there poor ventilation in your workplace?	*no*	*yes*

Part 3. Environmental History *Please circle the appropriate answer.*

1. Do you live next to or near an industrial plant, commercial business, dump site, or nonresidential property?	*no*	*yes*
2. Which of the following do you have in your home? *Please circle those that apply.*		
Air conditioner / Air purifier / Central heating (gas or oil?)		
Gas stove / Electric stove / Fireplace		
Wood stove / Humidifier		
3. Have you recently acquired new furniture or carpet, refinished furniture, or remodeled your home?	*no*	*yes*
4. Have you weatherized your home recently?	*no*	*yes*
5. Are pesticides or herbicides (bug or weed killers; flea and tick sprays, collars, powders, or shampoos) used in your home or garden, or on pets?	*no*	*yes*
6. Do you (or any household member) have a hobby or craft?	*no*	*yes*
7. Do you work on your car?	*no*	*yes*
8. Have you ever changed your residence because of a health problem?	*no*	*yes*
9. Does your drinking water come from a private well, city water supply, or grocery store? _____		
10. Approximately what year was your home built?_____		

If you answered *yes* to any of the questions, please explain.

APPENDIX

Medical Management of Children with Elevated Blood Lead Levels

The following guidelines are offered by the Washington State Department of Health to assist health care providers in caring for children with elevated blood lead levels. The set of questions provided on the reverse side of this page may be useful in deciding whether a particular child is initially at a higher risk of exposure to lead. Also, on the reverse side are state contact names and numbers for additional information on lead.

Blood Lead Levels	Actions
< 10 µg/dL	Indicates a normal blood lead level. Inform parents of potential lead hazards in childhood environments. Retest child at physician's discretion or as parental concerns arise.
10-14 µg/dL	These children are in a border zone. Adverse health effects will be subtle, if any, and are highly unlikely to be clinically apparent or measurable. Although it usually will not be possible to identify a specific source of lead, parents should have a sound understanding of the potential sources of lead exposure in children and should be instructed to assess their child's environment with respect to these sources. Children may be retested in 3-6 months to be certain their lead level is not increasing or, ideally, has dropped to a level below 10 µg/dL.
15-19 µg/dL	Despite a lack of clinical symptoms, these children may have an increased risk of small decreases in IQ and are more likely to have had exposure to a single, identifiable source of lead. While a full-scale medical and environmental follow-up is not recommended, health care providers should work with parents to remove potential sources of lead from the child's environment. These children should be tested for iron deficiency and nutrition information should be provided. Retests should be scheduled at 3-4 month intervals until the child's lead levels remain below 15 µg/dL or, preferably, below 10 µg/dL.
20-44 µg/dL	While clinical symptoms will still not be apparent in the majority of children in this range, the potential for adverse health effects has been more clearly documented in health studies and there will usually be an identifiable source of lead in the child's environment. A thorough interview and environmental inspection should be carried out in conjunction with the local health department. A confirmatory lead test, iron deficiency test, and a full medical and nutritional evaluation should be performed. Retesting for lead should be carried out at regular intervals until the child's blood lead remains below 15 µg/dL or, preferably, below 10 µg/dL. Other family members may also need to be tested.
≥ 45 µg/dL	Children with lead levels in this range are at a much higher risk of suffering long-term adverse health effects. An immediate confirmatory test should be followed with a full medical evaluation. Chelation therapy treatments should be considered in consultation with pediatric lead specialists. Information on chelation therapy procedures may be obtained from the sources listed below, or the Washington State Poison Center Network. A full-scale environmental investigation should be undertaken by local health representatives. If possible, these children should be removed from their residences until the sources of lead exposure are identified and remediated. Testing of other household members is advised. A lead level over 70 µg/dL can result in serious mental or nervous system damage and should be handled as a medical emergency.

Additional Sources of Information:

1) Chao J. and Kikano G.: *Lead Poisoning in Children. American Family Physician* January 1993.
2) U.S. DHHS: *Clinician's Handbook of Preventive Services*, 1993.
3) U.S. DHHS: *Preventing Lead Poisoning in Young Children: A Statement by the Centers for Disease Control,* 1991. (Contact CDC Lead Poisoning Prevention Program, 1600 Clifton Rd., Atlanta, GA 30333. Ph: 404-488-4880.)
4) Washington State Department of Health: *Lead and Your Kids: A Parent's Guide.* (A multi-language brochure for patients.)
5) Washington State Department of Health: *Dear Parent, What is Your Child's Lead Level?* (Multi-language flyer to assist parents in interpreting lead levels.)

Recommended Questions for Assessing Exposure Risk

- Does your child live in or regularly visit a house that was built before 1950? (This includes home day care centers, preschools, homes of baby-sitters or relatives, etc.)

- Does your child live in or regularly visit a house built before 1978 that is being or has been recently renovated or remodeled (within the last 6 months)?

Other Possible Questions

- Does your child live with an adult whose job or hobby involves exposure to lead? (Hobbies include ceramics, furniture refinishing, stained glass work, and firearm sports and recreation activities.)

- Does your child live in, near, or regularly visit an orchard or former orchard site where lead arsenate was used?

- If you or your child is of Hispanic ethnicity, do you administer any of the following home remedies: Azarcon, Greta, Rueda, Maria Luisa, Liga, Coral, Alarcon?

Source: Centers for Disease Control, 1997 Draft Guidelines

Washington State Lead Task Force Contacts

Community & Family Health Screening
Lorrie Grevstad 360-753-6060
Environmental Health
Lew Kittle 360-753-3855
Laboratory Testing
Pamela Navaja 206-361-2910
Epidemiology Reporting & Case Follow-Up
Eric Ossiander 360-705-6052
Adult Occupational Exposure
Labor & Industries 360-902-5655

Pesticide Illness: Unrecognized and Underreported

Vicki M. Skeers, RN, MN
Barbara F. Morrissey, MS
Patricia A. Macier, RN, MN

A distraught mother telephones your office for advice. Five minutes ago she accidently spoon fed her 3-year-old son two teaspoons of Kwell lice shampoo thinking it was cough syrup. She reports the child found it distasteful and spit some out, otherwise the child appears asymptomatic. How should you advise her?

- What symptoms would you expect from Kwell ingestion?
- Can this child be observed at home or is immediate medical attention required?
- Who can you turn to for immediate treatment advice?
- If the child develops symptoms, do you know how to report it to the Department of Health?

If you are unsure, read on!

In this case, the Washington Poison Center (WPC) was contacted for treatment advice. WPC advised the mother to call 911 for immediate transport. Medics arrived at the house 15 minutes after exposure to find the child pale and shaking, with decreased mental status and vomiting. Before being transported, the patient suffered a generalized clonic-tonic seizure, and was immediately started on oxygen and given intravenous (I.V.) valium to prevent further seizure. Child presented to the emergency room (ER) 30-45 minutes after exposure and had a second grand mal seizure. Patient was given a second dose of valium and was examined. Physical examination was essentially normal: temperature 96.8°F, blood pressure 124/74, heart rate of 138. There had been some decrease in respiratory drive after the seizure. Oxygen saturation was 97 percent. Patient was given Ativan, intubated, and administered gastric lavage with charcoal. Chest x-ray showed some right upper lobe infiltrate possibly from aspiration of emesis. In addition to sedation, the patient was chemically paralyzed with Norcuron to prevent self-extubation. The child was transferred to intensive care unit (ICU) at another facility for observation. The child was extubated and discharged two days later after no further seizure activity. Diagnostic impression was acute decrease in mental status and seizure, secondary to ingestion of lindane.

Discussion: Kwell contains 1 percent lindane which is an organochlorine insecticide. This class of insecticides interferes with sodium channel function in nerve axons and can result in the following symptoms: headache, nausea, vomiting, incoordination, tremor, and mental confusion. More severe poisoning may result in myoclonic jerking, generalized tonic-clonic convulsions, depression of respiration, and coma. Symptom onset normally occurs 30–60 minutes after oral exposure and up to 24 hours after dermal overexposure. Symptoms are rarely seen in children exposed orally to less than teaspoon. Four of the eight cases of childhood exposure to lindane reported to Department of Health (DOH) since 1991 have resulted from a parent mistaking the bottle for cough syrup or the child working off a "child-proof" cap. All potentially hazardous substances, including lice shampoo, should be labelled with a Mr. Yuk sticker and kept out of reach of children.

A 50-year-old male was in good health until one evening in the spring when he developed dizziness, chills, weakness, nausea, and vomiting. The next morning he called 911 because of worsening symptoms and was transported to a local ER. The patient was unable to walk or stand, had slurred speech, abdominal pain, and a productive cough. He could not be specific about his complaints, but he did not have a headache, neck pain, chest pain, or visual problems. His temperature was 98.6°F, blood pressure 162/108, pulse 63, and respirations 20. White blood count was 18,000 with a shift to the left. Renal and liver function test, strep test, electrocardiogram, chest x-ray, computerized tomography (CT) and magnetic resonance imaging (MRI) were all negative. Fluid from a lumbar puncture was clear with one white cell and one red cell. Glucose and protein were normal. The patient looked ill and in need of immediate medical attention. He was admitted to the hospital for acute infectious illness, most likely some form of encephalitis.

Subsequent history revealed that on the previous day between 2–4pm, the patient had been spraying his yard with a common home garden insecticide, Ortho Diazinon Plus Insect Spray. Conditions were windy. He was not using gloves or mask and noted that he inhaled quite a bit and also got some on his clothing, skin, hands, and face. After consultation with the WPC, the patient was given two doses of 0.5mg atropine 10 minutes apart.

There was no change in symptoms. After further discussion, the patient was given 1 gram of Pralidoxime over 15 minutes. There was a dramatic improvement in abdominal symptoms. Two more doses of Pralidoxime were given the next day. Over the period of hospitalization, his symptoms resolved.

Discussion: Diazinon is a common organophosphate (OP) insecticide considered to be of moderate toxicity when compared with other OPs which inhibit acetylcholinesterase (AChE). This individual displayed signs and symptoms of OP poisoning, including abdominal pain, dizziness, disequilibrium and bronchorrhea, and hypertension. OPs are absorbed through skin, lungs, gastrointestinal tract, metabolized by the liver, and are primarily eliminated through the kidneys. Diagnosis is based on history of exposure and the presence of typical signs and symptoms as noted above. Blood and plasma cholinesterase (ChE) levels can help verify exposure. This patient's laboratory value for acetylcholinesterase was 5.4 (normal range is 11.7-16.8). In this case, the AChE was obviously depressed.

Occupationally exposed individuals should know their baseline blood ChE activity. A depression of 25 percent or more is generally regarded as evidence of excessive absorption. A worker with ChE in the lower limits of normal could actually be experiencing a significant depression. However, without a baseline for comparison, this might be missed.

The product the patient was using comes as a 25 percent concentrate with instruction to dilute to less than 1 percent solution. The severity of symptoms was not typical for incidental exposure to a 1 percent concentration. There was suspicion the patient did not properly dilute the product according to label directions. With this and similar products it is important to read and follow all label directions.

DOH receives well over 500 reports of possible pesticide-related illness each year. In May 1990, the Washington State Board of Health established rules and regulations making pesticide-related illness a reportable condition. Health care providers are required to report cases of suspected pesticide symptoms to DOH or WPC. Cases of confirmed or suspected pesticide illness must be reported immediately if pesticide exposure results in hospitalization, death, or a public health threat. All other cases such as dermititis, conjunctivitis, respiratory irritation, etc., must be reported within four days.

Bilingual staff from the DOH Pesticide Section investigate all reports of illness related to pesticide exposure, usually within 24 hours. Data collected helps identify pesticides of particular concern, common routes of exposure, and trends in pesticide use and misuse which may affect public health. This information enables the Pesticide Section to identify high risk populations, develop intervention strategies, and evaluate outcomes. However, not every case investigated turns out to be related to pesticide exposure. Symptoms of pesticide poisoning may mimic other common illnesses, often making it difficult to determine the relationship of the exposure to the symptoms. Staff from the Pesticide Section are available to answer questions, provide information on specific pesticides, provide educational materials and speakers for groups and organizations. For immediate treatment advice, contact the WPC.

Mandatory reporting of pesticide-related illness depends on the cooperation of physicians and other health care providers to make it work.

> **To report an incident call the Department of Health, Office of Toxic Substances, Pesticide Section, at 360-753-3518, or the WPC at 800-732-6985.**

A free copy of the EPA publication Recognition and Management of Pesticide Poisonings, by Donald P. Morgan, MD, PhD, can be obtained by calling the Pesticide Section.

Washington Department of Health Drinking Water Publications

The following publications are available from:
Washington Department of Health
Division of Drinking Water
Building 3, Airdustrial Park
PO Box 47822
Olympia, WA 98504-7822

Olympia—Headquarters 360-664-2441
Olympia—SW Regional Office 360-664-0768
Seattle—NW Regional Office 206-464-7670
Spokane—E Regional Office 509-456-3115

Gardening in a Wellhead Protection Area brochure — Pub #331-006

Communicating Water Quality Risk Issues to the Public (1993)

Giardia Facts (6/91) — Pub #333-003

Citizen Monitoring: Recommendations to Household Well Users (4/90)

Copper in Drinking Water (97fscop.doc) — Factsheet

Drinking Water Program Contacts: Regional Offices and Technical Assistance (97fsnam2.doc) — Factsheet

Drinking Water Quality (fs-sha.doc) — Factsheet

Lead and Drinking Water (97fslead.doc) — Factsheet

Recommended References

Certified Drinking Water Bacteriology Labs
Available through DOH Drinking Water Laboratory Certification Program (206)361-2822

Certified Drinking Water Chemical Labs
Available through DOH Drinking Water Laboratory Certification Program (206)361-2822

Labs Certified to Test for Lead in Public Drinking Water
Available through DOH Drinking Water Laboratory Certification Program (206)361-2822

The Lead Ban: Preventing the Use of Lead in Public Water Systems and Plumbing Used for Drinking Water
Available through EPA (206)553-1200

Facts about Cryptosporidium
Available through EPA (206)553-1200

Back to Basics: Guide to Safe Drinking Water (1990)
Available through AWWA 1-800-926-7337

Drinking Water from Household Wells (9/90)
Available through EPA (206)553-1200 (#EPA 570/9/90)

Is Your Drinking Water Safe?
Available through EPA (206)553-1200 (#EPA 579/9/91-005)

Pesticides in Drinking Water Wells (9/89)
Available through EPA (206)553-1200

Nitrates and Groundwater (1988)
Available through the Freshwater Foundation (612)449-0092

Plain Talk about Drinking Water (1992)
Available through AWWA 1-800-926-7337 (AWWA#1P-2E-15M-70076-3/94-JP)

Washington Department of Health Toxic Substances Fact Sheets

Washington Department of Health
Office of Toxic Substances
PO Box 47825
Olympia, WA 98504-7825
360-586-5403

The following Fact Sheets are available upon request:

Aluminum
Revised August 1996

Antimony
Revised August 1996

Arsenic
Revised August 1996

Benzene
Revised August 1996

Cadmium
Revised August 1996

Carbon Monoxide
October 1994

Chromium
Revised August 1996

Hydrogen Sulfide
Revised October 1992

Illegal Methamphetamine Labs
January 1989

Indoor Air Quality
Revised January 1990

Iron in Drinking Water
Revised August 1996

Lead
Revised August 1996

Nitrate in Drinking Water
Revised August 1996

Polychlorinated Biphenyls (PCBs)
Revised August 1996

Pentachlorophenol
Revised August 1996

Styrene
October 1990

Tetrachloroethylene
Revised August 1996

Zinc
Revised August 1996

ATSDR Fax Information Directory

The following documents are available at no charge from the CDC/ATSDR Fax Information Service. To receive a document call 404-332-4565 and follow the prompts. When requested, enter the six-digit document number, and upon request, enter your 10-digit FAX telephone number (Area Code plus telephone number). You may enter up to five documents per call.

000002 Childhood Immunizations—i.e. measles, mumps, rubella
000003 Infection Control—Topics such as sterilization, disinfection, waste
000004 Disease Directory—Influenza, hepatitis, TB, HIV/AIDS, lyme
000005 Int'l Travelers Health Req.—Immunization recommendations and requirements for travelers
000006 NIOSH Information—Occupational Safety and Health Information
000007 Biosafety Information—Packaging/shipping biological materials
000008 Smoking and Health Information—Tobacco use facts
000010 Injury Prevention & Control—Violence, Suicide, Unintentional Injuries
000011 ATSDR—Agency for Toxic Substances and Disease Registry Information

Information Specifically for Health Care Providers

000102 Immunization Information Healthcare Workers Info
000103 ACIP Immunization Recommendations—Reference documents

ATSDR Publication Order Forms

820010 Case Studies in Environmental Medicine
820015 Hazardous Substances & Public Health newsletter: *Reports on Managing Hazardous Materials Incidents*
820053 Volume 3 Medical Management Guidelines for Acute Chemical Expsures

ATSDR Programmatic Fact Sheets

800010 ATSDR General Fact Sheet
801010 ATSDR General Fact Sheet(in Spanish)
800011 ATSDR Division of Health Education General Information
800012 ATSDR Division of Health Studies General Information
800013 ATSDR Division of Toxicology General Information
800021 ATSDR Regional Offices Directory

ATSDR Fact Sheets

820100 Association of Occupational and Environmental Clinics (AOEC) Cooperative Agreement on Managing and Preventing Diseases Related to Hazardous Materials
820101 AOEC member clinics list
820010 Association of State and Territorial Health Officials (ASTHO) Cooperative Agreement for Educating State and Territorial Health Officials in Health Effects of Hazardous Substances
820020 National Association of County/City Health Officials (NACCHO) Cooperative Agreement for the Development of Environmental Health Education Programs
820030 State/Tribal Environmental Health Education cooperative Agreements
800020 ATSDR Division of Toxicology—24-Hour TOX Information Hotline
840000 ATSDR Division of Toxicology—Toxicological Profile Information Sheet
840019 ATSDR Division of Toxicology—Priority List of Hazardous Substances
840017 ATSDR Division of Toxicology—Minimal Risk Levels
840100 ATSDR Division of Toxicology—Emergency Response Assistance
840215 ATSDR Division of Toxicology—Minority Health Professions Foundation Substance Specific Research Program
840214 ATSDR Division of Toxicology—Private-Sector Voluntary Research Program
840216 ATSDR Division of Toxicology—Great Lakes Human Health Effects Research Program
840218 ATSDR Division of Toxicology—Priority Data Needs for Hazardous Substances
840301 Sample Public Health Statement from the Toxicological Profile for lead
840302 Sample Public Health Statement from the Toxicological Profile for PCBs
840303 Sample Public Health Statement from the Toxicological Profile for mercury
810010 What is a Public Health Assessment?
810011 What is a Petitioned Health Assessment?
810012 What is a Health Consultation?
810013 What is a Health Advisory?
810020 Community Assistance Panels for Community Participation
800100 ATSDR Internet access
830000 Health Studies done by Division of Health Studies

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