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The Newsletter of the Hanford Health Information Network

# CONNECTIONS

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## Radiation Science Update: HEDR's Columbia River Work Undergoes Additional Review

by Jim Thomas, HHIN Research Director

A new assessment requested by the Agency for Toxic Substances and Disease Registry has identified several weaknesses in the work of the Hanford Environmental Dose Reconstruction Project (HEDR) on the Columbia River pathway. A "pathway" is the way people might have been exposed to radioactive materials. HEDR considered the Columbia River pathway to include consuming contaminated river water, fish or shellfish, and spending time along, on or in the river downstream from Hanford.

According to the new assessment, a key weakness in HEDR's Columbia River work is failing to consider another pathway: eating whole fish (including the bones) rather than fillets. This would apply to Native Americans and possibly to other groups of people. The HEDR reports reviewed in this assessment were not intended to apply to Native Americans, however. HEDR's reconstruction of dose estimates for Native Americans is continuing.

The assessment of HEDR was done by Owen Hoffman, Ph.D., and his colleagues at SENES Oak Ridge, Inc. Hoffman presented their conclusions to the December 1996 meeting of the Hanford Health Effects Subcommittee (HHES).

### Additional Radionuclides

Early in HEDR's work, some initial calculations (called scoping calculations) were done to help focus the work on the pathways and radionuclides that contributed the most to people's exposures. Based on these calculations, HEDR chose five radionuclides (phosphorus-32, sodium-24, zinc-65, arsenic-76 and neptunium-239) and used them in estimating the Colum-

bia River doses to representative individuals. HEDR reported these estimates in 1994.

Hoffman reviewed the HEDR scoping calculations and found another key weakness. The calculations were done only for adults at the time of exposure and not for children. Generally, children are more sensitive to radiation exposure than are adults.

Hoffman's own scoping calculations identified three radionuclides that he believes need to be reconsidered for future Hanford dose estimates.

● **Iodine-131** has an eight-day half-life and was released to the Columbia River during fuel element failures at Hanford's plutonium production reactors. HEDR estimated that there were approximately 2,000 failures, mostly from 1955 to 1965. The main route of exposure from iodine-131 in the river would have been internal: from drinking river water, especially in the Tri-Cities.

● **Cobalt-60** was released with the reactors' regular effluent and settled in the river's sediments. It has a five-year half-life and is a very strong emitter of radiation. The main route of exposure would have been external: from getting near the sediments, by walking along the shoreline or by swimming.

● **Strontium-90** concentrates in the bone when it enters the body and has a half-life of about 30 years. Hoffman recommended further consideration of strontium-90 for people who ate whole fish (including the bones).

### Radiation Risk Estimates

Hoffman also estimated risk to people exposed to the Columbia River pathway and

\**Connections* is published quarterly by the Hanford Health Information Network. Opinions expressed in this newsletter are those of the author, not necessarily of the Network.

The Hanford Health Information Network is a collaboration among three states and nine Indian Nations. Our work is based on respect for the dignity of individuals and their right to make personal decisions with the most complete information currently available.

For information, or address correction for this newsletter, contact the Hanford Health Information Line for your state or area:

**In Idaho**

1-800-793-6113

**In Oregon**

1-800-248-4446

**In Washington**

1-800-522-4446

**In other states**

1-800-959-7660

**Hanford Tribal Service Program**

1-800-798-0796

**HHIN Home Page**

<http://www.doh.wa.gov/hanford/>

**To Contact the Hanford Health Information Archives**

1-800-799-HHIA

**E-mail:** [hhia@foley.gonzaga.edu](mailto:hhia@foley.gonzaga.edu)

**World Wide Web:**

<http://www.foley.gonzaga.edu/hhiahome.html>

## HHIN Publications Now on the Web

Many of HHIN's publications are now available on a newly expanded World Wide Web site. The site address is: <http://www.doh.wa.gov/hanford/>

At this site you will find 15 HHIN publications about Hanford's releases and radiation health effects, a directory of organizations and agencies, a calendar of meetings, and frequently asked questions, along with forms to order other publications or get on HHIN's mailing list.

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### **Radiation Science Update**

(continued from page 1)

compared it with his estimate of risk for those exposed to the air releases of iodine-131. He concluded that some people exposed to the radioactivity in the river were at a similar level of risk as those exposed to airborne iodine-131.

Based on HEDR's 1994 reports, most scientists and government officials had considered the risks from the river pathway to be much lower than the risks from the air. Last year, the HHES recommended developing a medical monitoring program for those most heavily exposed to the iodine-131 releases to the air.

### **Impacts of New Assessment**

Officials with the Centers for Disease Control and Prevention (CDC), which is funding the remaining HEDR tasks, have said that additional work may be necessary before more dose estimates are calculated for the river pathway. CDC will make this decision after it receives Hoffman's written report. Hoffman's report will be reviewed by other scientists (called a peer review), and the final written report released in February or March 1997.

State coordinators of the Individual Dose Assessment Project (IDA) are also awaiting Hoffman's written report before deciding if additional work is required. By late 1997, IDA plans to begin offering dose estimates for individuals exposed to Hanford's radioactive releases. \*

The site makes it easy to find further information on a topic that interests you. Links to HHIN's Glossary will let you quickly find the meaning of a term that is new to you. Links to HHIN publications will take you to the places on the site where a subject is discussed in more detail. Still other links are to organizations that have their own Web sites.

If you're new to searching on the Web, or want to know about other Web sites of interest, two new HHIN publications may help. *Online Resources: How To Use the Internet To Find Health-Related Information* includes suggestions for getting started and for finding free or low-cost Internet access. *Selected Sites on the World Wide Web* lists a sampling of sites about radiation and health concerns. Call HHIN toll-free to get a copy of either of these publications mailed to you. \*

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### **Radiation Experiments Documents Offered Online**

A new government World Wide Web site offers historical documents about human radiation experiments and research. The HREX (Human Radiation Experiments) Home Page (<http://hrex.dis.anl.gov>) compiles thousands of documents from federal archives and records centers, and offers a way to search the records by date, author, agency, subject matter and full text.

The Department of Defense located these documents for review by the Advisory Committee on Human Radiation Experiments. One of the experiments the Advisory Committee looked into was the December 1949 Green Run at Hanford.

The Advisory Committee published its final report in October 1995. The report is available at another Web site: <http://www.seas.gwu.edu/nsarchive/radiation>

For more information about HREX, contact Department of Defense Radiation Experiments Command Center, 6801 Telegraph Road, Alexandria, VA 22310-3398, (703) 556-7300. \*

**N**ow that the Hanford Health Information Archives has been accepting material for a year, it's time to begin sharing excerpts of personal memories and health histories people have contributed.

Elizabeth Wilson of Yakima, Wash., wrote an account of her own and her family's health histories. Here are several excerpts:

"My husband and I grew up in Yakima and married in Nov. 1949. Our oldest son was born in Walla Walla on Oct. 8, 1950 and our second son in Richland on Dec. 15, 1952.

"My husband worked in the Hanford restricted areas for six years from 1951 to 1956. I worked in the restricted area for six months in 1953. We lived, worked and played in Richland. In the hot summers we enjoyed water sports.

"My husband had his first heart attack at age 48. By then...he already had congestive heart failure. He died at age 50....

"I had breast cancer in 1992. In 1981 I began to have mysterious aches and pains. In 1982 I went to eight different specialists and no one could find anything wrong. It was that old 'it's all in your head.' The pain was acute and my arm was frozen and I even needed help to undress. Lucky I found a doctor in Phoenix who helped me with that problem but he could not help me with the tingling in my legs or the other pains that I had. I went to orthopedics, neurologists, internists and any kind of doctor that I thought might help me.

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**Radiation Risk Communication Tapes Available**

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Audio tapes are available from the Radiation Risk Communication conference which HHIN's Washington program held for health care providers in September. Topics included radiation health effects, risk communication, and ethical and psychosocial issues. HHIN is placing tapes at regional libraries in Washington state. The tapes also can be ordered from AudioProductions (1-800-488-5455) at \$4 for one session or \$23 for the set of seven tapes, plus tax and shipping. \*

My own internist would ask every year when I had my physical, 'I suppose you are still having tingling in your legs?' and I would say 'yes' and he would look at me like I was making it all up. I had finally stopped telling him about it. The pain was real.

"In 1992 I read an article about fibromyalgia and it sounded so much like my symptoms and I went to a rheumatism specialist and he gave me a complete physical and the diagnosis was fibromyalgia. What a relief - for 11 years I had no idea what was wrong and furthermore no doctor seemed to know....

"It is much easier to live with something when you know what it is. I actually cried when the doctor gave his diagnosis."

The full text of this and other contributions are available by request from the Archives. \*

**PROJECT UPDATE**

**HEDR Task Completion Working Group**

The milk producer survey and the work on short-lived particles and worst case doses are currently underway by LTG Associates, Inc. and Radiological Assessments Corp. (RAC), respectively. Dr. Gary Chisum of LTG and Dr. Paul Voillequé of RAC will give progress reports at the March 11 HEDR Task Completion Working Group meeting in Seattle. Global Research Systems will conduct a scoping study of migrant farm workers. It is anticipated the study will be complete in April 1997. CDC has reviewed Dr. Alex Klementiev's reports for any new technical information. The review did not suggest there are major, unresolved methodological issues associated with the HEDR reports produced to date. For more information, call Elke Shaw-Tulloch at 1-800-545-5581. \*

**CALENDAR**

**HEDR Task Completion Working Group and Individual Dose Assessment Project**

Meetings combined to facilitate public participation: March 11-12 in Seattle; July 9-10 in Coeur d'Alene, Idaho. 1-800-545-5581

**Hanford Health Effects Subcommittee**

May 8-9 in Kennewick, Wash.; July 24-25 in San Francisco, Cal. The day before each meeting, a meeting of the Intertribal Council on Hanford Health Projects is held. (404) 639-0730

**HHIN Advisory Board Meetings for your area**

Call for dates: (see phone numbers on page 2)

**Hanford Thyroid Disease Study Advisory Committee**

May 30 in Atlanta, Georgia. 1-800-638-4837

Dates and times may change. Please contact the sponsoring organization for information.

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# COPING

making health care choices

*This column focuses on ways to cope with health concerns downwinders have expressed to HHIN. HHIN does not advocate particular treatments but offers information to help you make your own decisions. If you have concerns about radiation exposure or illness, see your health care provider.*

Rebecca Leonard lived in The Dalles, Ore., from 1953 to 1957. Her family ate fruit and vegetables from their garden and fish from the Columbia River. She has hypothyroidism and scleroderma. We asked about her experiences in choosing health care.

Responding are two naturopathic physicians, Debra Clapp, N.D., and Ralph Wood Wilson, N.D., M.S. Acupuncture; and a primary care physician, Suzanne Staudinger, M.D.

**Rebecca:** It's difficult to find a doctor that *truly* knows about scleroderma and how to treat it. When you mention "Hanford downwinder," doctors look at you like you are nuts or want to sue someone. Where would you find a doctor that knows about this condition? How would I find others with this condition?

**Drs. Clapp and Wilson:** You deserve respect and attention from your caregiver. Scleroderma is one of many connective tissue diseases, possibly with an autoimmune component. These are not well understood.

Different types of health care providers take significantly different approaches to health and disease. You might like a team approach. Holistic practitioners (naturopathic doctors, acupuncturists, Chinese herbalists, homeopaths, etc.) do not see all scleroderma patients as the same, and will tailor the therapy to your experience. Interview several about their training, diagnostic methods, therapies and time spent with patients. Would they cooperate with a diverse team? Ask about their experience with your diseases and how they would approach your situation.

Naturopaths (N.D.) use nutritional, herbal and other therapies to support connective tissue integrity and the immune system. N.D.s strive to maximize health as well as relieve symptoms, in part by correcting imbalances that

## Selected Resources

### National Organization for Rare Disorders, Inc. (NORD)

- Networking Program connects families having the same diagnosis.
- Reports (at a nominal charge) and Web site offer disease information, list support organizations and other services.

NORD, P.O. Box 8923, New Fairfield, CT 06812-8923, 1-800-999-6673; Web site: <http://www.pcnnet.com/~orphan/>

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### Specific disease organizations

Call HHIN or search on the Internet. For example, the Scleroderma Federation, Inc. (1-800-422-1113) makes referrals to doctors and has support groups.

may have contributed to your disorder. A computer search of natural medicine databases shows therapy combinations that can be tailored to a scleroderma patient.

The main radionuclide released from Hanford was radioactive iodine. Because the thyroid concentrates iodine, it is thought to be most at risk, although other sites may be at risk. Health history, physical exam and lab/diagnostic tests help detect abnormalities at early, treatable stages. Many N.D.s treat hypothyroidism and can provide care for cancer patients to decrease side effects of chemo- and radiation therapy and to maintain viable immune function.

**Dr. Staudinger:** I can imagine that you had trouble finding a doctor to answer all your questions. Because scleroderma is uncommon, not all doctors are familiar with it.

Scleroderma is a disorder in which the body's connective tissue becomes very thickened. It can affect the skin, blood vessels, lungs and kidneys. Patients who just have involvement of the skin usually consult with a dermatologist. If internal organs are affected, you would want to see a rheumatologist (specialist in the musculoskeletal system and joints) in addition to your primary care doctor.

In some areas, your county or state medical society or a community hospital may be able to refer you to a specialist in your area. Or try contacting a national group. For example, there are national organizations for scleroderma patients (see box). HHIN may be able to help you locate a support group or connect you with other downwinders in your area.

Another option is to ask your primary care doctor if he/she is interested in becoming your "expert" about the health effects of living downwind of Hanford. You could help by sharing information you have found (such as HHIN's health care provider packet) and letting your doctor know how to stay updated. If your doctor doesn't feel comfortable doing this, respect that decision and keep looking until you find a doctor who is interested. They do exist! \*



## Hanford Health Information Network Resource Center

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Sponsored by the states of Washington, Oregon and Idaho in concert with nine Indian tribes and nations

March 1997

Dear friend:

This letter brings you: 1) the latest edition of the HHIN newsletter; 2) a post card for you to return to us if you are interested in having your oral history recorded; 3) a new way for you to help us reach other organizations; and 4) information about four articles now available through the HHIN.

**What's in the newsletter?** Enclosed you will find the Winter 1997 issue of *Connections*, HHIN's quarterly newsletter. The front-page "Radiation Science Update" describes a recent scientific review by Owen Hoffman, Ph.D., regarding the Hanford Environmental Dose Reconstruction Project's Columbia River work. On page 3, you can read an excerpt from an Archives contribution -- a letter written by a Yakima, Wash., native about her health history and experiences in the downwind area.

This issue's "Coping" column (back page) focuses on making health care choices. We interviewed a Hanford downwinder about her questions; two naturopathic physicians and a primary care physician respond.

**Are you interested in preserving your oral history?** The Network would like to make donating information to the Hanford Health Information Archives as easy as possible for people who don't live near the Archives. What's easier than talking to someone on the telephone? An HHIN *Oral History* program would allow us to interview you by telephone, tape record the interview, and preserve the tape and its transcription in the Archives. But before we launch such a program, we need to know if you and others would find it useful.

Please fill out the enclosed postcard to let us know that you would like more information about participating in a *Hanford Health Oral History* program. Then, we'll mail you the details and work with you to set up a phone interview if we proceed with the *Oral History* program.

**Which national clubs and organizations are you involved with?** We are looking for additional ways to get the word out about Hanford's exposure to people who have since moved away from the area, and do not yet know of the radiation releases. One possibility is to place announcements in newsletters of such organizations as the Elks, Lions, Masons, Eagles, Rotary International, Shriners, etc. If this is a real concern of their members, they are more likely to help. If you belong to any of these organizations or any other national organization that you believe may be willing to help us share Network information, please contact us toll-free, 1-800-959-7660. Thank you for your thoughtful consideration in this effort.

**New material available from the Network:** The following four articles published in 1996 are now available for you to order through the HHIN. (Ask for them by order number.)

- **“Downwinders: Are You Prepared to Respond to Their Questions?”** by L.B. Sandy Rock, M.D., M.P.H., published in *Northwest Physician* (Summer 1996): Informs health care providers about information available through the HHIN. Ask for **Order No. 585.**
- **“Hanford Health Information Archives Offers Unique History of Exposure to Radiation in US Northwest,”** by Martha Gaie, published in the *Journal of the American Medical Association* (August 7, 1996 -- Vol. 276, No. 5, p. 354): A map of the primary areas exposed to Hanford’s radioactive releases is included. Ask for **Order No. 586.**
- **“The Verdict: No Harm, No Foul,”** by Danielle Gordon, published in *The Bulletin of the Atomic Scientists* (January/February 1996): Examines the key recommendations made by the President’s Advisory Committee on Human Radiation Experiments (ACHRE) in its October 1995 report. Ask for **Order No. 587.**
- **Fall/Winter 1996 *Health Research Bulletin*,** a publication of the Physicians for Social Responsibility: This special, double issue newsletter contains an article about the environmental, health, social and economic impacts of U.S. nuclear testing in the Marshall Islands between 1946 and 1958, and updates on health research at U.S. nuclear weapons sites. Ask for **Order No. 588.**

We welcome your comments and suggestions. Please call us any time, toll-free. As always, thank you for your time and continued support.

Sincerely,



Bea Kelleigh  
Executive Director

Enclosures: 1) Winter 1997 *Connections*, and 2) Oral History program postcard