Equal Lead Safeguards Upheld for Both Sexes

Appeals court lets stand new OSHA standard challenged by lead industry employers.

In a precedent-setting case, a United States appeals court recently upheld the portion of an Occupational Safety and Health Administration standard that provides the same safeguards for both men and women working with lead. The decision is now being appealed to the U.S. Supreme Court.

The court specifically rejected lead industry arguments that fertile women be excluded from most lead-exposed occupations on the grounds that they would require such low blood lead levels that no feasible standard could protect a fetus.

The court's opinion quoted research offered by OSHA showing that males exposed to lead suffer serious harm to spermatogenesis. The opinion also summarized studies showing high rates of spontaneous abortion, miscarriage, stillbirth, and birth defects in the pregnancies of women married to lead-exposed workers.

The opinion quoted the testimony of WOHR director Dr. Jeanne Stellman that:

there is still no justification for treating women separately from men. The blood level that would prevent adverse effects on spermatogenesis is comparable to the level probably necessary to prevent adverse fetal development.

The opinion was issued last August 15 by the United States Court of Appeals for the District of Columbia Circuit in a case which consolidated petitions to review the OSHA lead standard promulgated in November 1978. The petitions were brought by a variety of parties including the United Steelworkers of America, the United Automobile Workers, General Motors Corporation, National Constructors Association, and other employers who said it was too strict and unions who wanted the standard stricter.

The Lead Industry Association, arguing for the employers, claimed that any standard stringent enough to protect fertile women would allow for lead levels so low that they would keep "virtually all workers out of the workplace." The association suggested that the only feasible means of protecting fertile women was to exclude them from the workplace or to counsel them out on a case-by-case basis.

The OSHA standard includes education and training for workers planning families, careful use of medical surveillance, and a provision for removal from jobs for medical reasons that include guarantees of pay and job security.

In response to other aspects of the petitions, the court stayed enforcement of the standard for six months for more than 40 specific industries with instructions that OSHA develop more complete feasibility data for these industries. In respect to reproductive hazards, however, it concluded that "OSHA has advanced substantial evidence to show the same level which it presents as a feasible and necessary one to prevent the other health effects of lead can, in fact, protect women from reproductive harm, and moreover, that men require similar protection."

More than 800,000 workers in over 120 different occupations are exposed to lead. They include those working with ceramics, enamel, insecticides, and other chemicals. It has been known for almost a century that excessive lead absorption can also cause damage to the kidneys and central nervous system.

It has been the practice of some companies working with lead to exclude fertile women while allowing male workers to remain exposed.
Many of the routine procedures carried out by dental hygienists and assistants involve distinct health hazards. These may be aggravated by lack of proper equipment or by improper use of the equipment that is provided. The following suggestions for safeguarding the health and safety of these workers were developed for WOHR by Harriet Birsch-Schoenbart.

**Airborne infections**

Bacteria, allergens, and toxic substances from patients' saliva and plaque are sprayed into the air as a result of cleaning, scaling, and polishing operations commonly performed by dental hygienists. Dental assistants who are present at these procedures are also susceptible to the colds, respiratory infections, and other airborne diseases they may cause.

A mask is essential to guard against airborne infections, and is also recommended as a general protective device. Disposable masks are preferable; they should be changed with each new patient.

Safety glasses should also be worn, placed over the edge of the mask to prevent fogging.

The patient should be encouraged to rinse her/his mouth or brush teeth just prior to the procedure to help kill bacteria before they can be spread.

**Fatigue and backache**

Backaches and back injury, as well as increased fatigue, can be caused by incorrect work postures and lack of proper equipment.

Operatory stools for both the dental hygienist and assistant are strongly recommended. The hygienist's stool should have adjustable height, a broad and stable base; complete mobility with free-rolling casters; a large, firmly padded seat, and a back support that can be shifted, if necessary, to also give support to the side or abdomen.

The dental assistant's stool should also have adjustable height; extra support at the base to prevent tipping; and a foot rest, since the assistant is usually positioned higher than the operator and generally cannot reach the floor.

Good sitting position for the hygienist should include (1) feet flat on the floor; thighs parallel with floor; (2) back straight, head relatively erect, shoulders relaxed and parallel to the floor; (3) body weight completely supported by the chair, with balancing on the edge avoided; (4) eyes directed downward in a manner which prevents neck and eye strain; (5) elbows close to the side, with the field of operation adjusted close to elbow height.

Good standing position should include (1) both feet flat on the floor with toes forward; (2) back straight, head relatively erect, shoulders relaxed and parallel with the floor; (3) weight centered over the balls of the feet and distributed evenly to both feet; knees slightly flexed; (4) elbows close to sides; (5) eyes directed downward but neck not bent, so that neck and eye strain are prevented.

**Eye injuries**

Protective safety glasses guard not only against infections but against flying particles and debris from rotating instruments that may injure the eyes. Since the treatment takes place in such a small area, and the worker is so close to the patient, there is a particular hazard to the eyes.

**Mercury**

Although mercury poisoning may not be a significant problem among U.S. dental personnel, a recent survey showed that dental assistants do have a slightly higher amount of mercury in their blood than the population at large. Good hygiene to prevent unnecessary exposure includes:

1. adequate exhaust ventilation;
2. tile floors, no carpeting;
3. lipped edges surrounding tile floors; usage of a low mercury-alloy ration, preferably 1:1;
4. yearly testing of all dental personnel;
5. avoidance of skin contact with amalgam mercury;
6. storage of mercury in tightly sealed containers, made of plastic to minimize danger of breakage;
7. exclusion of food, drinks, and smoking material from the work area, and careful handwashing before leaving;
8. removal of any heat sources from the work area, since even slight increases in temperature can significantly increase mercury vaporization.

**Radiation**

Exposure to radiation from dental X-rays over a long period of time can result in tissue damage, and even changes in genes. The exact amount of radiation needed to mutate genes is not known, but precautions should always be taken.

- If there is no protective barrier between the operator and source of radiation, she should stand at least six feet away from the source and the patient.
- When exposing film, especially if she cannot stand at a safe distance from the beam, she should be sure to stand behind the lead barrier.
- During exposure she should never hold the film or cone for the patient.
- The fastest film possible should be used.
- The operator should adhere strictly to proper technical procedure to reduce excessive radiation and to ensure minimum exposure.
- The X-ray unit should contain a
New Regs Proposed on Ionizing Radiation

The Regulatory Maze. Twenty countries belonging to the International Labor Organization have different policy recommendations regarding exposure of women workers to benzene, a solvent widely used in chemical, drug, and paint industries, and known to have a variety of harmful effects on both men and women. In the United States, the OSHA standard on benzene has just been rejected by the Supreme Court. U.S. women workers also face a maze of different regulations from different government agencies, as in the case of ionizing radiation (below).

Ionizing radiation is now joining the workplace hazards for which special regulations for women are being considered. This is because the human fetus is ten times more sensitive to radiation than the human adult.

The first enforceable U.S. government regulations on exposure of women workers to ionizing radiation are being tentatively proposed by the federal Environmental Protection Agency.

Published only in a working draft in August, they take the form of four alternatives offered for public comment. At present, women working with radiation are covered only by the unenforceable recommendations of the Nuclear Regulatory Commission.

Women who work with ionizing radiation are found primarily in medicine, where many are X-ray technicians. However, 10 to 15 percent of the workforce in nuclear power plants, fuel processing, and byproduct manufacturing and distribution is female. The heaviest concentration of women in radiation-exposed occupations is under the age of 30.

The reason for the delay in publishing the regulations seems to be manifold. "We didn't have much support when we started to review all these six years ago," admits an EPA staff member. "According to our surveys, most workers, and especially women, are getting very low dosages of radiation in the first place. And it's hard to resolve the issue of the fetus without treading on equal employment opportunity rights."

"Nobody really knows what an acceptable level of radiation is," comments Elli Walters of the Environmental Policy Institute, a public interest group. "Any radiation poses a risk. Even at the present dose now considered acceptable for the public—a quarter of a rem a year—you can show an increase in cancer."

WOHRC director Dr. Jeanne Stellman feels that "the only acceptable regulation would be one which limits both male and female radiation exposure. Ionizing radiation is a clear example of the vulnerability of both sexes to adverse reproductive effects," she said.

The EPA is currently proposing these alternatives:

1. Both workers and employers are encouraged to keep doses to any unborn less than 0.5 rem during pregnancy. (A rem is a measurement of biological damage done by radiation absorbed by the body.)

2. Both workers and employers are encouraged to avoid job situations involving whole-body dose rates greater than 0.2 rem per month to women of childbearing age.

3. Women of childbearing age should be limited to jobs for which the whole-body dose rate is less than 0.2 rems per month.

4. The whole-body dose to both male and female workers should not exceed 0.5 rem in a six-month period.

According to EPA survey data, most women concerned with medical X-rays are already receiving far below the 0.5

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The NRC Suggests

The NRC suggests to the pregnant worker:

a. If you are now pregnant or expect to be soon, you could decide not to accept or continue assignments in these areas.

b. You could reduce your exposure, where possible, by decreasing the amount of time you spend in the radiation area.

c. If you do become pregnant, you could ask your employer to reassign you to areas involving less exposure to radiation. If this is not possible, you might consider leaving your job. If you decide to take such steps, do so without delay.

The unborn child is most sensitive to radiation during the first three months of pregnancy.

d. You could delay having children until you are no longer working in an area where the radiation dose to your unborn baby could exceed 0.5 rem.

You may also, of course, choose to:

e. Continue working in the higher radiation areas, but with full awareness that you are doing so at some small increased risk for your unborn child."
Reproductive Rights Group Holds Conference

Last August, WOHRC took part in the first national conference of CRROW, the Coalition for the Reproductive Rights of Workers. WOHRC is a founding member of CRROW, which was formed in 1979 by 34 trade unions and women's, civil rights, health, and environmental groups to ensure that workers will no longer have to make what Coalition co-chair Odessa Komor of the UAW called "the unacceptable choice between a job and having children."

Main purpose of the meeting, which was attended by 250 men and women, was to dispel the myth fostered by corporations that reproductive hazards are largely a women's issue. "That's just a new manifestation of a very old corporate tactic: to divide the workforce," said Frank Martino, president of the International Chemical Workers Union (ICWU), a major speaker. "First, they exclude women out of respect for the fetus. Next, it'll be blacks because of 'genetic screening.'"

The fact that all workers have an urgent stake in the issue was dramatically illustrated by three speakers who themselves had suffered from workplace hazards. One was Lola Rymer, one of the American Cyanamid employees who had herself sterilized in order to keep her job in the lead pigments department of Cyanamid's Willow Island, West Virginia, branch.

"I really shouldn't have done it. But in order to keep my household together and pay the bills, I had to. So I did," explained Mrs. Rymer.

Nick Crudo, a worker at a New York state chemical factory that produced a herbicide for the Eli Lilly Company, fought back tears as he told about his five-year-old son, the only child who has survived out of five pregnancies involving men in his department. The youngster, born with two arteries in his heart transposed, has spent a quarter of his life continued on page 6

Sanitary Facilities for Farmworkers Asked

A new Committee for Farmworker Justice has been formed to press for basic sanitary facilities for agricultural workers. The committee charges that a delay by the Department of Labor in setting regulations has caused these workers to labor without toilet facilities or drinking and washing water through-out one of the hottest summers on record.

Although all nonagricultural workers are covered by OSHA regulations requiring such facilities at the worksite, farmworkers were exempted, says the committee. A lawsuit brought by the National Congress of Spanish-Speaking Citizens prompted the Secretary of Labor to issue a proposed standard in 1976, but although public comments were received and a hearing requested, OSHA has not proceeded with the regulations. Last June, when a district court compelled the Secretary of Labor to provide a written timetable, he reported that the standard could not be completed for four and a half years.

The committee charges that the delay has been caused by "tremendous pressure from major agribusiness groups."

An OSHA spokesperson denied this charge, claiming that the delay has been caused by even more urgent priorities. "We must deal first with problems resulting in illnesses, serious injuries and even death of workers," she said. "It is not correct to say that we have succumbed to pressure from agribusiness. Yes, they pressure us, but not any more than the farmworkers do."

The committee charges that the lack of drinking water in the fields can cause severe dehydration, heat cramps, and heat stroke. Lack of water for hand-washing prevents workers from removing pesticides from their skin, eyes, and clothing. Lack of toilet facilities can cause gastrointestinal problems, food contamination and bladder diseases, especially in pregnant women. Some 35 to 40 percent of agricultural workers are women.

In a related development, particular discrimination against women agricultural workers was recently reported by the U.S. Community Services Administration (formerly the Office of Economic Opportunity). According to the CSA, growers are encouraging women's hiring by building housing facilities designed for single men only. Women are also less likely to be hired to operate machinery, and thus are consigned to lower paying jobs. When foreign workers are imported for farm labor, they are invariably male. The CSA also has reports of women farm workers forced into prostitution by foremen.

Members of the Committee for Farmworker Justice include the Migrant Legal Action Program, Rural America, National Association of Farmworker Organizations, Environmental Action Foundation, Center for Law and Social Policy, Urban Environment Conference, and Mississippi Hunger Coalition. The committee address is 806 15th St. NW, Room 600, Washington 20005.

CRROW Resource Guide

One result of the CRROW conference is publication of an excellent resource guide, Reproductive Hazards in the Workplace. The 197-page guide, written in popular language, explains, among other things, what reproductive hazards are, how they enter the body, what the remedies are, and how to document hazards in the workplace. It also lists further resources, explains scientific terms for the non-scientist, and describes the male and female reproductive systems.

Copies may be ordered, at $6.95 each, from the Coalition for the Reproductive Rights of Workers, 1126 16th St. NW, Washington, D.C. 20036.
Radiations in the Dental Office
against infections, backache, and radiation exposure.

minimum total filtration consistent with federal and state requirements. In general, total filtration should be equivalent to 1.5 mm aluminum up to 70 kilovolt (peak) and 2.5 mm for equipment operating above 70 kvp.

• Shielded open-end cylinder or rectangular-collimating devices should be used in conjunction with the long-cone technique. This will reduce the amount of scatter radiation. Equipment should be regularly inspected and maintained.

Stress

Patients' anxieties and fears about dental work can be stressful to the hygienist. Working relationships within the dental team can also be stressful.

Stress can be alleviated by identifying its causes, helping patients deal with their anxieties, and realizing that patients' fears are not directed at the worker personally. Dental hygienists and assistants can work together to provide positive feedback and help each other through stress situations.

Skin disorders

Frequent contact with patients' bacteria and the chemicals used in dentistry may cause skin irritations. Workers should be particularly careful about contact with disinfectants, natural oils such as eugenol, plastics and acrylic resins, and developing and fixing solutions. It is wise to wash the hands with soap after using such materials, to wear protective gloves and barrier creams, and when irritation occurs to try to substitute different substances or brands.

Nitrous oxide

Nitrous oxide is the most commonly used general anesthetic gas in dentistry. When exposure occurs over a long period of time, its potential hazards include miscarriage, liver disease, birth defects, and cancer.

A scavenging device that can be held within the nosepiece of the patient's nasal mask has recently been developed and is very useful in eliminating exhaled and unused gas. Also recommended is a fan attached to the mount of the spot-light to blow away from the respiratory area where the hygienist and assistant work, efficient air-conditioning that vents to the outside of the building, and minimizing conversation with the patient to reduce exhaled air. Equipment should be tested for leakage, and the air should be monitored. A reasonably achievable concentration of nitrous oxide appears to be approximately 50 ppm.

Noise

Dental offices are filled with a variety of sound-producing devices, such as the air-driven high-speed drill, which operates at high frequencies, some even at ultra high frequencies not detectable by the human ear. Since such noise can cause hearing loss, it is advisable to wear ear plugs made either of defibered or regular plastic. Such plugs allow the wearer to hear normal sounds and speech, but reduce high intensity sounds. Redesign of the tools to eliminate excess noise is the best solution.

Hepatitis

Hepatitis can be transmitted by patients' saliva or blood. Therefore careful preventative measures must be taken. A new vaccine against hepatitis B may soon help prevent this disease.

All surgical gloves, masks, needles, syringes, and paper supplies should be of the disposable variety. Only handpieces and air-water syringes that can be sterilized should be used. Workers should handle dirty instruments very carefully to avoid puncture wounds. Instruments should be cleaned with an ultrasonic cleaner to remove gross debris. Autoclaving or dry heat should be used for sterilizing, since germicides alone cannot guarantee sterilization.

It is also wise for workers to know the signs and symptoms of hepatitis, so that they can spot them in patients. Every dental patient should have a medical history taken, indicating whether the patient or members of her/his family have had hepatitis.
Radiation continued from page 3

limit. However, notes the EPA, less than half the workers exposed to radiation in medicine are monitored for dosage levels. Thus its own estimate of how much average dosage such a worker receives "may not be meaningful," admits the agency survey.

Half a rem (0.5 rem) is also the figure recommended by the Nuclear Regulatory Commission as the maximum permissible dosage throughout pregnancy. However the NRC guide states only that it is the responsibility of the employer to take all practicable steps to reduce the pregnant woman’s radiation exposure, and it is the responsibility of the pregnant woman to decide whether the exposure being received on the job is low enough to protect the unborn child.

WOHRC on Radio

A new radio program devoted to women’s occupational health had its premiere broadcast on November 10. Produced by New York nonprofit station WBAI in cooperation with WOHRC, it featured WOHRC director Dr. Jeanne Stellman and staff member Mary Sue Henifin, who discussed general problems in the field.

The twenty-minute phone-in segment that ended the hour-long program elicited unusually good audience response.

The program, focusing on different aspects of women’s occupational health, will be broadcast on the second Monday of each month, except for December when it will be heard on the 15th.


Half-hour-long tapes of the programs, deleting the phone-in segments, will be available for a charge to WOHRC members.

For more information, write to WOHRC.

COMING IN MAY


Staff Update

Four new staff members have joined the Women’s Occupational Health Resource Center: Gloria Gordon, a research psychologist, who is in charge of a project on health and safety in office work; Mary Sue Henifin, technical assistant; Eugenia Donahue, office administrator; and Penny Ashwanden, formerly of the American Health Foundation, who is a consultant on organization and media.