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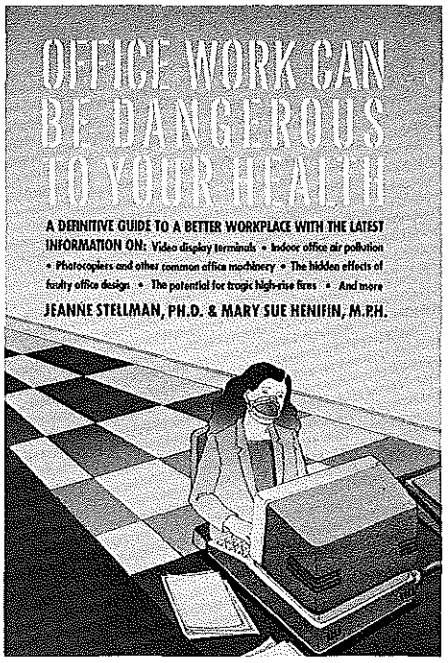
WOHRC NEWS

WOMEN'S OCCUPATIONAL HEALTH RESOURCE CENTER
School of Public Health — Columbia University



WOHRC Director Dr. Jeanne Stellman and staff member Mary Sue Henifin are authors of a book published this month.

New Book Tells How To Make Offices Safe and Healthy

Office Work Can Be Dangerous to Your Health, a new book by WOHRC director Dr. Jeanne Stellman and former WOHRC coordinator Mary Sue Henifin, is being published in January by Pantheon Books.

The book is designed as "a working guide to working people," said Dr. Stellman, "a practical guide to setting up an office for maximum health and safety." Major chapters discuss the use of video display terminals, the use and design of office furniture and equipment, office lighting, fire safety, office space and indoor air pollution.

Readers are provided with an extensive checklist to enable them to go through their own offices and critically examine the conditions described in the book.

The chapter on VDTs, for instance, is

continued on page 2

WOHRC Will Help Employers Teach Workers About EtO

WOHRC is preparing a new service to help employers comply with a proposed new OSHA regulation which will require yearly training of workers handling ethylene oxide (EtO).

Under the program, employers will be helped to set up educational programs to teach workers how to recognize and deal with the hazards associated with the sterilizing gas which is commonly used in hospitals, clinical laboratories and dental clinics. Recent research has shown EtO to cause leukemia, tumors, sterility and malformed fetuses in laboratory animals and to be linked in humans with leukemia, diseases of the circulatory system, upper respiratory complaints and changes in DNA, which controls heredity.

Programs set up with WOHRC advice will be designed to complement, not substitute for, modifications in use of EtO. They will train employees to minimize their exposure to the gas by specific work practices and proper use of equipment. WOHRC will also develop data on the best way to set up these programs by following up results to see if they really have effectuated changes in work habits. Employers participating in the program will be chosen on the basis of their willingness to cooperate with such testing.

The new service will be part of WOHRC's larger and more comprehensive programs for health and safety training of hospital workers and will be carried out in conjunction with the Division of Health Administration in the Columbia University School of Public Health in which WOHRC is centered.

The new OSHA standard on EtO, which is now in its final stages of formulation, would also lower the permissible exposure level of workers from the present 50 ppm (parts per million

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SPERM COUNT

A new report on the organic solvent, toluene, reveals that it can damage spermatogenesis.

Three Japanese researchers, in a recent medical journal article, reported this finding after an autopsy on a young man who had for 10 years been addicted to sniffing glue in which toluene was used as a thinner. The scientists had expected to find the serious effects on his nervous system which were the cause of his death, but on looking further found that the solvent also caused a thickening of testicle membranes which resulted in "faulty or suppressed spermatogenesis."

Toluene is also used in the manufacture of explosives, dyes and many other commonly-used chemical compounds.

The report above was written by Drs. T. Suzuki and S. Kashimura and their laboratory assistant, K. Umetsu, at the Yamagata University School of Medicine. It appeared in *Medical Science Law* (1983) Vol. 23, No. 3.

This box contains periodic reports showing that toxic chemicals in the workplace and environment affect male as well as female reproductive capacity. Contributions are welcome.

VDT Safeguards Featured in San Francisco Union Contract

Far reaching provisions governing the use of video display terminals are included in new contract language agreed on by a public employees union and the City of San Francisco.

The city and the United Public Employees Local 390/400 announced last fall that their agreement includes provisions for 15-minute breaks after 2 hours of continuous VDT use as well as the right of pregnant operators to request other duties for the duration of their pregnancies.

Other provisions include:

- VDT operators shall have healthy work environments free of excessive noise, crowding, contact with fumes and other unhealthy conditions.
- The city and the union will confer on ways to design the flow of work to avoid long, uninterrupted use of VDT equipment.
- A committee of city and union officials will be formed to review proposed provision of eye examinations for VDT operators.
- Physical equipment for VDT operators provided by the city will include glare screens, adjustable chairs, and footrests and tables that allow for maximum operator comfort. Optimal lighting conditions will also be provided.
- Prior to the acquisition of additional or replacement VDTs, the city agrees to meet and consult with the union on their design. Specifically mentioned are separate keyboards, tiltable screens, phosphor colors, brightness controls "and any other features relating to operator health and well being."
- The city agrees to inspect each machine on a regular basis and to maintain all equipment in good working order.
- The city agrees to keep records on each VDT operator for the duration of his or her employment plus 25 years.

Alternate duties may be provided

In the provision on the rest breaks, it is agreed that if the work schedule does not allow for rest or lunch, the employee will be assigned other duties for 15 minutes. The pregnancy provision specifies that "the Board of Supervisors shall encourage each department" to adopt the policy.

In announcing the agreement, the union also said that it was giving priority this year to finding out more about VDT radiation hazards and methods of preventing them. It noted that the city had promised to consider any such information.

Local 390/400 is affiliated with the Service Employees International Union. For further information call Alexis Rankin, (415) 524-8018 or Maura Kealey, (415) 465-0120. □

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WOMEN'S OCCUPATIONAL HEALTH RESOURCE CENTER

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(Subscription information on page 6.)

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reference for survey questions such as: "Does the VDT workstation have the following features: *a.* nonglare walls, ceilings, and work surfaces? *b.* adjustable, nonglare lighting, shielded and indirect? *c.* screen at right angles to windows?

The chapter on lighting encourages office workers to examine not only the kinds of lamps they have available, but the presence of glare and steps that can be taken to avoid it. The discussion on indoor air pollution points out the possible presence in the office environment of such hazards as asbestos, formaldehyde, cigarette smoke, germs in heating and ventilating systems, radon in construction materials, and microwaves from broadcasting antennae. This chapter features a page-long table listing some of the estimated 2,000 constituents of cigarette smoke and their known health effects.

Sixteen other tables cover such useful and little known information as chemicals used in offices that can cause allergic skin responses, building codes governing fire safety, recommended lighting levels for different kinds of office rooms and tasks, and the amount of radiation emitted by an extensive list of video display terminals.

Illustrations show "how to"

There are also more than a score of illustrations to graphically display such information as positions that stress the body at work, what a model VDT station should look like, how to measure correct chair-seat height and how to measure office noise.

Three appendices in addition to the survey questionnaire give readers a generous list of resource materials and public and private agencies and organizations as well as testimony recently presented to the U.S. House of Representatives on the effects of the new technology on office workers.

Office stress discussed

One of these is stress which Dr. Stellman and her colleagues have found in recent research is a major office health hazard. Office stress is caused not only by the new machine-pacing and supervision of office work, they say, but by physical factors such as noise, air quality and the degree of worker privacy. It is also caused by such psychological factors as dissatisfaction with a job that is either "overly demanding" or "crushingly boring." This dissatisfaction only increases when there is insufficient pay and lack of social recognition — the lot of too many office workers. □

***Office Work Can Be Dangerous to Your Health* is available from WOHRC at $15.95 per copy hard cover and $6.95 per copy soft cover plus an additional $1 for postage and handling.**

A 15 percent discount will be given for copies ordered by April 15, and hard cover copies will be autographed.

Three chapters of the book — those on lighting, VDTs and office furniture, supplies and equipment — will be featured in a series in the February, March and April issues of *Working Woman* magazine.

WOHRC FACT SHEET

WOMEN'S OCCUPATIONAL HEALTH RESOURCE CENTER

Danger: Lungs At Work

Many women, as well as men, are exposed at work to substances that irritate the lungs. Textiles, chemicals, detergents, pottery, porcelain and many other workplace materials give off dusts, fumes or gases that may cause lung damage. Constant irritation over a long period of time can result in a variety of infections and breakdowns in the respiratory system, leading to such diseases as chronic bronchitis, byssinosis (brown lung) and emphysema. If a worker exposed to lung irritants smokes, her chances of developing respiratory disease multiplies.

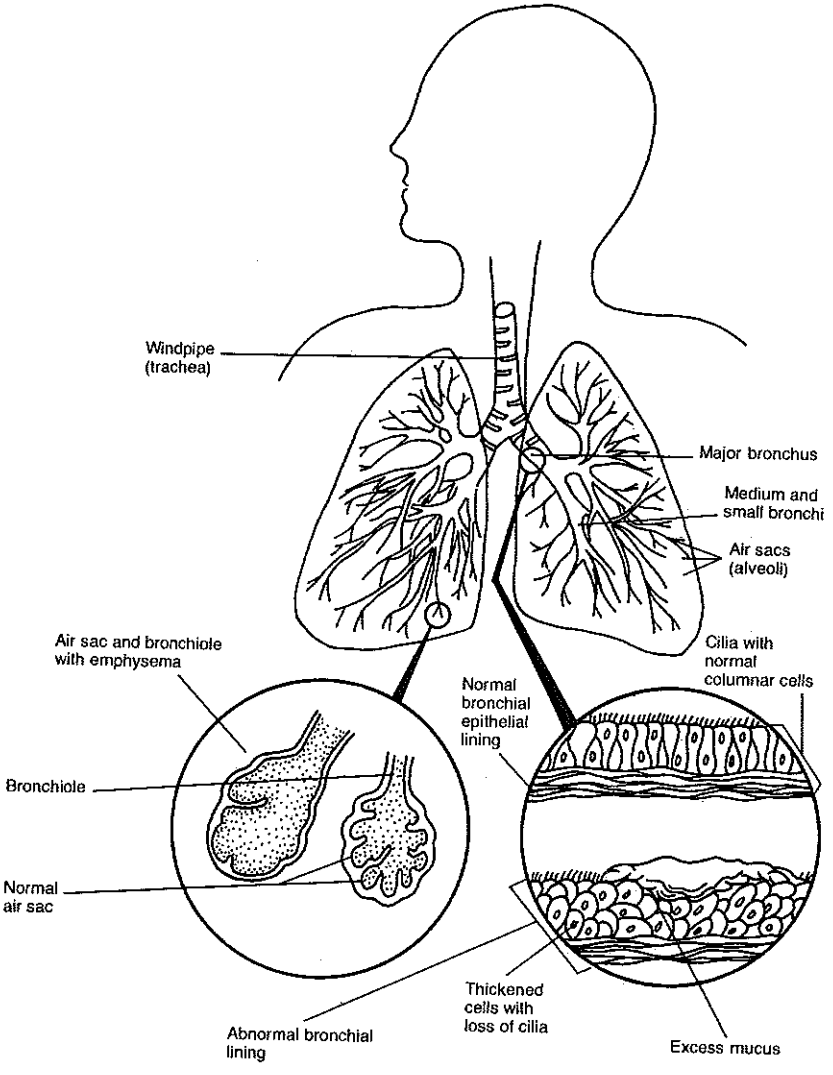
How the lungs work

The lungs perform the vital function of transferring oxygen, which is necessary for life, to the blood which circulates it throughout the body. They are a part of the respiratory system which also includes the trachea or windpipe, the major breathing tube which connects to the nose and throat. This tube branches into two other main airways, the bronchi, one in each lung, which branch out further into medium-sized, then smaller airways, the bronchioles. These smallest airways end in delicate air sacs called alveoli, which resemble clusters of grapes. There are millions of such sacs throughout the lungs, all surrounded by tiny blood vessels. The oxygen from the air diffuses through the very thin walls of the alveoli into the red blood cells which transport it around the body.

The walls of the airways of the respiratory system are lined with mucus-producing glands like those of the nose. When the airways are irritated by dust, fumes or foreign particles in the air, these glands produce more mucus in order to dissolve and carry away the irritants. Constant irritation by smoking or industrial pollution can cause the mucus-producing glands to become swollen, blocking the airways.

The excess mucus from the glands may lead to chronic bronchitis, or it may cause pressure on the alveoli, or air sacs, causing their walls to tear or break down. This is emphysema.

When either of these conditions develop, the oxygen that passes through the alveoli walls is limited, and the air and fluid in the lungs become stale and more prone to infection which, in turn, leads



THE LUNGS AND LUNG DISEASE

Jeanne Stellman, *Women's Work, Women's Health*

to further lung damage. A vicious cycle has set in.

Textile work and byssinosis

Byssinosis, or brown lung, is caused by raw cotton dust. In some individuals it causes an allergic response: the small airways contract, making it difficult to exhale air. However, byssinosis has also been found to affect people who do not show an allergy. Either the cotton dust itself or a microorganism associated with it causes the lung tissue to harden. Byssinosis has been shown to lead to airway obstruction and serious lung impairment in periods of exposure shorter than 10 years.

Cotton mill workers have also been found to suffer from a disproportionate amount of chronic bronchitis, including wheezing, shortness of breath and cough. Cigarette smoking by cotton mill workers was shown in one study to quadruple the bronchitis rate.

Work with other kinds of textile fibers, both natural and synthetic, can also be damaging to the lungs, although not as much so as cotton dust.

At risk: textile workers in mills producing cotton, synthetic fiber, wool, soft hemp, flax, sisal and processing of jute and kapok.

Chemical irritants

Chemical dusts and fumes, another cause of lung impairment, affect women in a number of industries. Meat wrappers in supermarkets often develop an asthma-like response when sealing the wrap, made of **polyvinyl chloride**, with a hot wire melting device. The heat releases gases and fumes, among them **phosgene** and **hydrochloric acid**, which are known to induce respiratory illnesses. The kind of refrigerated air in which meat wrappers work is also known to aggravate respiratory problems, although there is not yet enough research to document this in the industry itself.

Workers in plastics factories are exposed to similar fumes as well as to **plastics additives** such as **plasticizers** and **stabilizers.** Rubber workers, in addition to chemical fumes, may be exposed to such dusts as **talc** and **carbon black.** In one study, rubber workers who both smoked and were exposed to dusts and fumes were found to be 10 to 12 times more likely to have to retire because of lung disabilities than workers in unexposed areas of rubber factories who did not smoke.

Cleansing agents, which are used by large numbers of women both on and off the job, have also been shown to sometimes cause acute respiratory responses.

At risk: meat wrappers; plastics and rubber workers; household workers; laundering, cleaning and other garment service workers.

Industrial dusts

A variety of dusts are known to cause the formation of fibrous tissue in the lungs. The most dangerous of these is **asbestos** which can also cause cancer. One study at a factory producing asbestos textiles and insulation materials found that women with a high degree of asbestos exposure lasting for as little as two years suffered excess rates of cancer of the lung. Another group of women employed longer but with lesser exposure suffered a mortality rate three times the average from other respiratory diseases.

A variety of **industrial dusts in contaminated clothing** can be hazardous to laundry workers. Lung disease has been found in women who laundered clothes for English pottery workers, and cases have been reported of cancer among wives and families of asbestos workers who brought home clothes to be laundered.

Cosmetologists and hairdressers, who are daily exposed to **sprays and lacquers**, may also be in danger of lung disease, although further research on this question is still needed. **Aerosol sprays** are known to be particularly hazardous because the droplets they exude are extremely small and can make their way deep into the respiratory tract where they can do the most harm. Household and janitorial workers who use aerosol sprays are also at risk.

Scarring and hardening of lung tissue has been reported among women employed in the manufacture of porcelain electrical parts where there was known exposure to **silica.** This is the dust that causes silicosis, an occupational disease known since the building of the pyramids.

At risk: hospital and medical workers; household and janitorial workers; beauticians; and workers in asbestos and porcelain factories.

Plant and animal dusts

In addition to fiber dusts, such as that from cotton, other plant and animal dusts may cause lung disease. Some infect the alveoli and cause flu-like symptoms including fever, chills, a dry cough and a bluish tinge to the skin caused by lack of oxygen. If exposure is longlasting, a serious chronic lung ailment may develop.

A number of illnesses connected with agriculture and the raising of animals come under this heading. They include **farmer's lung** (from moldy hay); **mushroom worker's lung** (from mushroom compost); **bird fancier's lung** (from pigeon, parrot and other droppings); **turkey raiser's disease** and **chicken raiser's disease.**

According to some research, severe allergic reactions to **housedust** may be caused by a mite in the dust. **Enzymes** used in detergents were found to cause such allergic responses that products including them have been banned from further production in the United States.

The most widespread reactions of this kind, however, probably come from **contamination of humidifiers, air conditioners and heating systems by a variety of micro-organisms.** In one office where workers came down with chills, fever and shortness of breath, examination of the air conditioning system revealed that it was contaminated with an organism that has been associated with farmer's lung. Another outbreak, in a stationery factory, was traced to contaminated water in the air conditioning system.

At risk: office workers; household and janitorial workers; agricultural workers.

Much of the above material was adapted from the article, ***Occupational Lung Disease and Cancer Risk in Women,*** *by Jeanne M. Stellman, PhD, and Steven D. Stellman, PhD, in the November 1983 issue of* ***Occupational Health Nursing.***

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Australia To Emphasize Job Health and Safety

Occupational health and safety are receiving new emphasis in Australia since the election of a new government in 1983, according to information recently received by WOHRC.

Under an agreement between the government and the Australian Council of Trade Unions, workers' representatives as well as employers and the government will play an active role in setting and enforcing occupational health and safety standards.

The agreement, which was signed with the Federal Australian Labor Party before its ascent to power last March, calls for the establishment of four new national bodies.

Unions will be involved

The four will be:

— a National Occupational Health and Safety Commission (NOHSC) which would involve employers and unions in setting health and safety standards;

— a National Occupational Health and Safety Office (NOHSO) which would implement and enforce regulations and standards recommended by the commission;

— an Environmental Contaminants Authority (ECA) which would license new chemicals brought into the workplace according to criteria to be developed by the commission;

— a National Institute of Environmental and Occupational Health (NIEOH) which would conduct research, provide information and train health and safety professionals.

The agreement also calls for appointment of workers' health and safety delegates to monitor and control hazards at the workplace level.

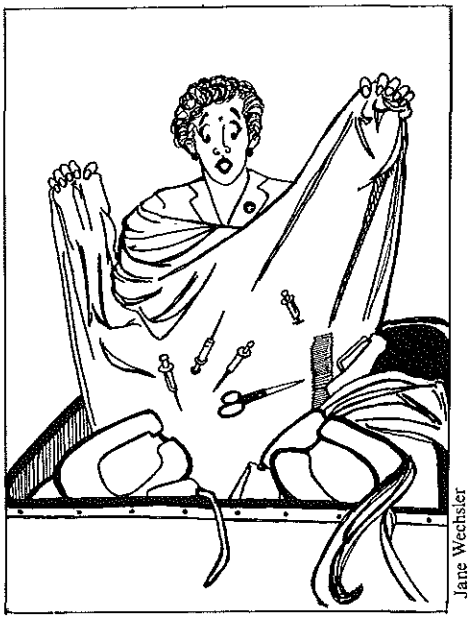
Interim commission set up

An interim commission to plan the first two new bodies was established last October. Meanwhile state governments have introduced more stringent occupational health and safety legislation and have stepped up prosecution of employers violating current regulations.

Australian workers' health and safety problems are very similar to those in the United States, according to trade union bulletins. Video display terminals and the right to know about chemicals in the workplace are subjects of particular concern. Chemicals in Australian workplaces are still largely unregulated and adherence to exposure limits that have been established is still largely voluntary.

For further information write to the Australian Council of Trade Unions, ACTU-VTHC Occupational Health and Safety Unit, Trades Hall, Box 93, Carlton South, 3053, Victoria, Australia.

WHAT'S IN THE WASH?



Jane Wechsler

A letter to the British medical journal, *The Lancet*, recently noted that because of reports of foreign articles in a hospital laundry, the manager was asked to retain all such items for a three month-period.

Among the items found: 3 full colostomy bags, 3 full urine bags, 8 unemptied urinals, 9 unemptied bedpans as well as 15 hypodermic needles, 2 used scalpels, 22 dissecting forceps, 3 scissors, 14 bowls and 2 shoes!

The health risk to the laundry staff from the sharp items and the infectious wastes could not be calculated — but they certainly include cuts, infections and, at worst, hepatitis-B.

Could anything like this occur in the United States?

PUBLICATIONS

Photocopiers: Do They Pose a Health Hazard? By David M. Halton, PhD. Canadian Centre for Occupational Health and Safety. 1983. 23 pages.

This research report by a project scientist at the Canadian Centre for Occupational Health and Safety, was written in answer to the many questions the centre has received about photocopier safety. It describes the current technologies used in photocopying machines and discusses health and safety concerns raised at each step. Particular emphasis is placed on chemical hazards.

The report is written in popular language with many helpful illustrations to demystify the process for lay people. For each health hazard discussed, the author offers specific suggestions for health and safety controls.

Copies of the report may be ordered from the center at 250 Main Street East, Hamilton, Ontario, Canada L8N 1H6.

Six New AFSCME Booklets

The Women's Activities Department of the American Federation of State, County and Municipal Employees (AFSCME) has issued six booklets on issues affecting women's health and well-being in the workplace. They include a discussion of health and safety problems in the office called Warning: Office Work May Be Hazardous To Your Health. Other booklets discuss negotiating about child care, alternative work patterns, sexual harassment on the job and pay equity.

Copies of the booklets are available free for members, 75 cents apiece for non-members, from AFSCME Women's Activities, 1625 L Street NW, Washington, D.C. 20036. □

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EtO *continued from page 1*
parts of air) to 1 ppm, and would provide for monitoring of employee exposure, engineering and work practice controls and medical surveillance of employees using the gas.

WOHRC staff members were among the early researchers of the hazards of EtO and the center was prominent among the many agencies and labor unions urging the new standard at public comment sessions of OSHA rulemaking last summer.

For further information about the new program write to WOHRC, Columbia University, 21 Audubon Ave., 3rd floor, New York, NY 10032. (For a fact sheet on EtO see WOHRC NEWS October/ November 1982 or send WOHRC 50 cents and a stamped, self-addressed envelope.)

EtO Shown to Damage Nerve and Muscle Cells

New research on EtO shows that it also does damage to the nerve and muscle cells of exposed workers.

Two studies published in 1983 in this country and Japan report cases of otherwise healthy young men who, after working with EtO sterilizers, developed numbness and lack of coordination in their legs. Biopsies of the muscle and nerve cells in the Japanese study showed degeneration and atrophy in parts of the cells. In both Japanese and American reports, the subjects regained full sensation and use of their legs after they were removed from exposure to ethylene oxide.

The Japanese report, detailing the cases of two patients, was published in *Neurology* (Cleveland), March 1983, by Drs. Shigeki Kuzuhara, Ichiro Kanazawa, Takao Nakanishi and Taihei Egashira of the University of Tsukuba.

The American report, also of two cases, was published in the *Archives of Neurology,* July 1983, by Drs. Pasquale F. Finelli, Thomas F. Morgan, Israel Yaar, and Carl V. Granger of Providence, Rhode Island. □

Vaccine Developed To Fight Hepatitis-B

Workers in hemodialysis centers who are threatened by hepatitis-B can be helped by a vaccine, report researchers who have tested its efficacy.

Heptavax-B, the vaccine, was administered to 865 staff members of 43 hemodialysis units in different cities in the United States, with controls in other units given a placebo.

The incidence of infections caused by hepatitis-B virus (with or without developing hepatitis itself) was only 2.2 percent among those who took the vaccine. Those who were given the placebo had a 9.9 percent infection rate. The vaccine has also proved effective in other high risk populations, note the researchers.

Hepatitis-B is of particular concern to staff members who care for infected patients or who are exposed to blood-contaminated equipment.

The experiment, conducted by Dr. Wolf Szmuness and associates, was reported in *The New England Journal of Medicine,* Vol. 307, pp. 1481-1486. □

Computer Technology Topic of Conference

The new computer technology has subjected many women, particularly in the Third World, to "punishing" working conditions, an International Women and New Technology Conference was told last summer.

Health problems ranging from chemical hazards on electronics production lines to stress caused by automated office work were described at the conference sponsored by the Women's International Information and Communication Service in Geneva last June.

The conference was attended by women from 18 countries in Europe, Asia and North America.

For further information write to Women's International Information and Communication Service, P.O. Box 50 (Cornavin), 1211 Geneva 2, Switzerland.

New WOHRC Staff Member

Occupational health specialist Barbara Berney of Washington D.C. has become a new member of WOHRC staff. Berney is former director of the Urban Environment Conference's Occupational Health Education Center for Women and Minority Workers in Washington. She is also a member of the board of the Alice Hamilton Occupational Health Clinic.

At WOHRC Berney will design a conference on health and safety in the office scheduled for the fall of 1984. She will also direct a national subscription drive for WOHRC NEWS among trade unions.

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