

# WOHRC NEWS

WOMEN'S OCCUPATIONAL HEALTH RESOURCE CENTER

## Studies Point to Restrictions on Formaldehyde

**CIIT study finds nose cancer in rats and mice exposed to formaldehyde fumes.**

A recent study showing cancer in the noses of rats and mice after inhalation of formaldehyde vapor has raised questions about the lack of government restrictions on this widely-used chemical.

The two-year study, conducted by the Chemical Industry Institute of Toxicology, found 95 nasal cancers among 240 rats who had been exposed to 15 ppm (parts per million) of formaldehyde vapors for six hours a day, five days a week, for 24 months. A smaller number were found among mice and among rats who had received a lesser exposure.

The federal Consumer Product Safety Commission has received more than 1500 complaints during the past two years regarding formaldehyde fumes from insulated houses. It is estimated that more than half a million homes have been insulated with urea-formaldehyde foams since the early 1970s.

The Formaldehyde Institute, an industry group, has urged postponement of any restrictions pending the outcome of a further study on workers it is now undertaking in partnership with the National Cancer Institute.

This study hopes to cover at least 5,000 persons working with formaldehyde. However, reports Dr. Joel R. Bender, head of the Formaldehyde Institute's medical committee, site selection is progressing somewhat slowly due to the strict epidemiological design of the study and the apparent slow response from formaldehyde producers, textile industry and resin manufacturers.

Preliminary studies done on morticians and formaldehyde resin workers have shown no unusual number of can-

*continued on page 8*



Mary Sue Henifin

**Members of the new Health and Safety Advisory Board of the Coalition of Labor Union Women include (from l.) Janet Ewing, Amalgamated Clothing and Textile Workers Union; Hermoline Saxton, Communications Workers of America; Natividad De Jesus, Bakery, Confectionary and Tobacco Workers; and Joan Eisenberg, director of the CLUW Health and Safety Project. (See page 8.)**

### SPERM COUNT

A chemical that is known to cause gene mutations and may cause sterility has been found in human semen. It is known that it can be absorbed into the body in a very short time from fabrics treated with flame retardant.

This was reported by four Florida State University researchers in the February 27, 1981 issue of *Science*.

The four chemists said that they had discovered in samples of semen the chemical tris (dichloropropyl) phosphate, which is commonly used as a flame retardant in such products as Dacron and polyurethane foam. This and two closely related chemical compounds are known to be muta-

genic; the two others are factors in sterility.

"Evidence suggests that there may have been a significant decline in fertility in the United States over the last three decades," they note. "It is conceivable that the presence of chlorinated substances, such as [Tris], in seminal fluid could have a bearing on this decline. In view of the toxicity of these chemicals, it would seem prudent to limit human exposure to them to an absolute minimum."

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

# Tenosynovitis: What Too much pressure on the wrist, hand and forearm

Typists, cashiers, mail handlers, packers, light assembly workers—people who use their hands, wrists and fingers in quick, flexing, repetitive motions—often suffer from such painful ailments as tenosynovitis.

Symptoms include pain, swelling and difficulty in moving the wrist or forearm. Tenosynovitis is caused by too much speed in work, and workplaces, jobs and tools that are not designed to fit comfortably with the structure of the human hand.

Quite often, other symptoms accompany tenosynovitis: tense and painful neck muscles or inflammation of the shoulder or the elbow. The latter is popularly known as “tennis elbow.”

Complete rest away from the job will cure tenosynovitis, but as soon as the worker goes back it may flare up again. The only reasonable way to deal with it is to prevent it—which means redesigning jobs, workplaces and tools. This is particularly important for women because most tools and equipment are designed for a man's hand size and grip.

Women, especially, should keep these points in mind when using work gloves and hand tools:

- **Work gloves** should not be too large or thick, especially between the fingers. If they are, it is difficult to get a firm hold on a tool or other work object; the



Service Employees International Union

**Light assembly workers who constantly flex fingers, wrists or forearms are among those prone to such painful ailments as tenosynovitis.**

worker is more apt to grip over-tightly, causing strain and fatigue.

Also avoid gloves that are too stiff or tight about the wrists. This can cause pressure on the carpal tunnel, a channel in the wrist through which important nerves and blood vessels flow. Such pressure can irritate the nerves or impair blood supply to the hands, causing coldness, numbness and tingling.

- **Hand tools** should not put undue pressure on any one spot on the hand. Pressure should be distributed over a large enough area so that damage is avoided to the nerves in the hand.

The toughest part of the hand is the vertex of the angle between thumb and fingers. Hand tools should thus be designed so that the most pressure falls there, not between the individual fingers where there are many vulnerable nerves and blood vessels.

So-called “form-fitting” handles on tools should be avoided, since they are usually designed to fit some mythically “average” hand, one like the designer's. When finger grooving is used to facilitate a firm grip on a tool, it should be shaped in a way that will not put undue stress between the fingers of a hand that may be either too small or too large to hold it well.

Particularly important in preventing tenosynovitis is keeping the hand aligned with the wrist. Grasping a small object while working with a bent wrist is especially stressful to the wrist. Thus, tools should be redesigned so that it is the tool that bends, not the wrist.

## Design of Work

Since overstress is a main cause of tenosynovitis and related ailments, reducing the speed of the work is necessary. This is particularly important in cases where it is difficult to redesign tools, equipment or workplace layout.

Another good preventive measure is alternating jobs so that the same worker does not repeat the same stressful motions all day long.

Jobs should be designed to avoid undue stress on the wrist and forearm. If, for instance, the job involves grasping a rod while manipulating machinery, the job setup should allow the wrist to be straight. As noted above, it is much harder and more of a strain to grasp a small object with a bent wrist (see illustration). Conversely, if the job calls for grasping accompanied by fine manipulation by the fingers—as in fine wiring or jewelry making—the wrist is more comfortable when bent.

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# News from Canada

by Mary Morison

## VDTs and Cataracts

In the first case of its kind, a Canadian trade union has filed a claim for a video display terminal operator who says that her machine caused cataracts in both her eyes.

Darlene Weiss, who worked on a VDT for two years for an average of four hours a day, had no previous visual problems. Now she will require surgery on both eyes.

The Ontario Public Service Employees Union (OPSEU), which filed the claim on her behalf with the Workmen's Compensation Board, consulted with a specialist, Dr. Milton Zaret of New York, who has been studying the effects of microwave radiation on the human eye since 1959. Dr. Zaret concluded that Ms. Weiss's cataracts were related to radiation exposure.

Recognition of the claim could have profound impact in Canada. The Canadian Labor Congress estimates that as many as 250,000 Canadian workers use VDTs during the working day, and the number is rapidly expanding.

The discovery of Ms. Weiss's cataracts has prompted her union to undertake a number of activities to discover the hazards of VDTs and to educate members about them. Recently, OPSEU sponsored an all-day educational conference in Toronto which was attended by over three hundred people. The union has also persuaded the Ontario Ministry of Labor to undertake a survey of radiation levels associated with VDTs, but dissatisfied with the Ministry's methodology, is preparing to follow up with one of its own.

OPSEU research officer Bob deMatteo reports that "the Ministry of Labor just doesn't believe that low level radiation presents a health hazard. They don't understand the problem and don't want to."

The union, in addition, has asked Dr. Zaret to design a questionnaire on eye health hazards for both office workers who use VDTs and those who do not. Follow-up medical examinations will be made where indicated. OPSEU is also participating in a more comprehensive health survey being undertaken by the Canadian Labor Congress.

*Editor's Note: There is a great deal of controversy about VDTs, radiation and cataracts. Most studies have shown that VDTs do not emit enough radiation to give cause for concern. However, there are questions as to whether or not malfunctioning machines may give off enough radiation to be harmful.*

## VDT Leaflets Available

Two new leaflets describing the possible health hazards of VDTs have been published and are available on request. VDTs may be obtained from the Occupational Health and Safety Branch, Saskatchewan Labor, 1150 Rose Street, Regina, Saskatchewan, Canada, S4P 3V7.

*Health Alert: Video Display Terminals* may be ordered from the Labor Council of Metropolitan Toronto, Suite 407, 15 Gervais Drive, Don Mills, Ontario, Canada.

## Office Worker Health Survey

The Canadian Labor Congress has begun a survey to assess the health and working conditions of 2500 office workers in eight cities across the country. Undertaken with the assistance of seven union organizations, the survey will take particular note of the effects of VDTs.

Workers are being asked to fill out a questionnaire of some one hundred items ranging from hours to the type of work, the nature of the work environment and their own general health. Several sections deal specifically with VDTs.

Preliminary results of the survey are expected this spring and will be reported as they become available. Copies of the questionnaire may be obtained from the Labor Education and Studies Center, Canadian Labor Congress, 2841 Riverside Drive, Ottawa, Ontario, Canada K1V 8N4, Attention: Victor Rabinovitch.

## Update on Lead

Early in 1979, women employed in the smelter at the Hudson Bay Mining and Smelting Company in Flin Flon, Manitoba, were told that no more women would be hired there unless they

could provide proof of sterilization. Those already working in the smelter were given the option of transferring to surface jobs at lower rates.

Their union, the United Steelworkers of America, took their case to the Human Rights Commission of Manitoba. However, Flin Flon sits on the Manitoba-Saskatchewan border, so the case had to go to the federal Human Rights Commission. There, the union took the unusual tack of arguing that it is men at the smelter who are suffering discrimination since they continue to be exposed to lead.

## Stress and Boredom

Much press attention greeted remarks linking stress to job boredom at the health and safety conference sponsored by the National Union of Public and Governmental Employees (NUPGE) in Winnipeg January 24-25.

Dr. James Meuser, an occupational health consultant who addressed the conference, was quoted widely when he reported that "monotonous jobs such as car assembly, typing and switchboard work can lead to an increase in neurosis, withdrawal from others and unprovoked aggression."

He cited a Detroit study which found "high mental health" in fewer than 30 percent of workers doing repetitive factory work. "Most," he said, "experienced periodic feelings of depression, poor social relationships, uncontrollable anxiety, strong hostilities, chronic distrust, and general dissatisfaction."

Dr. Meuser advocated job rotation, which has been negotiated by some unions, as an antidote. "Boring, repetitive work will always be with us," he noted, but job rotation "allows workers to learn several jobs and means no one person gets stuck for eight hours doing the same thing."

Others speakers at the conference, which attracted 160 delegates from 7 provinces, include WOHRC executive director Dr. Jeanne Stellman and Claire-Maire Fortin of the Canadian Labor Congress. NUPGE, the host, represents a coalition of unions of provincial government employees.

*Mary Morison has been a writer, researcher and editor for the Ontario Federation of Labor Health and Safety Training Program. Please send news and comments for this page to her at #11-1544 Summer Street, Halifax, Nova Scotia, Canada B3H 3A4.*

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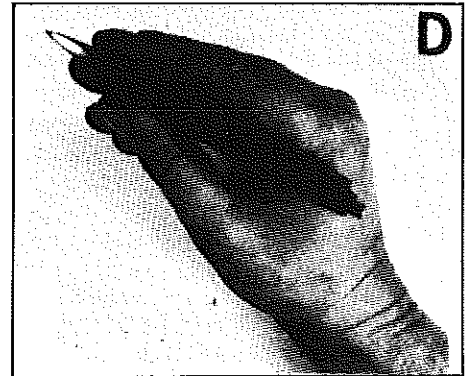
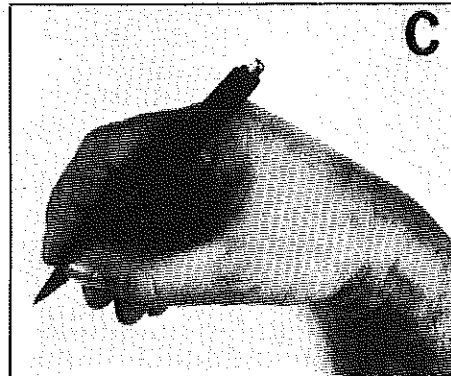
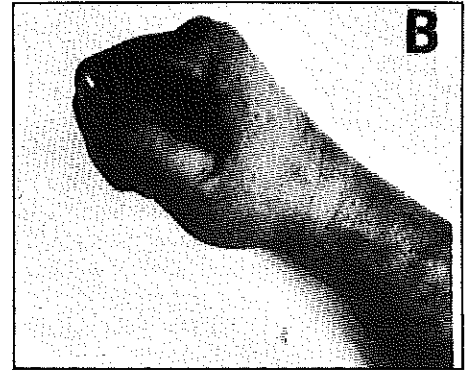
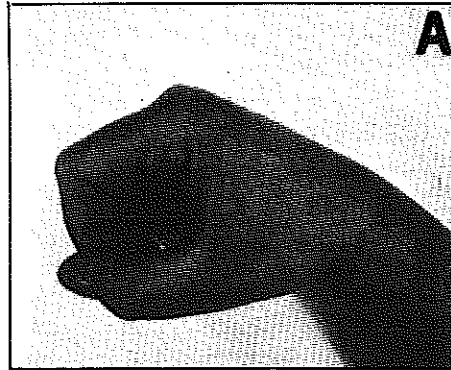
## can be prevented by redesigning jobs and tools.

A change as simple as shifting the distance of the worker's chair to her workbench or table can help in better positioning the wrist or arm.

Tasks should also be avoided that require prolonged bending of the wrist while moving the forearm, as in hammering nails into an overhead object. Also bad for the wrists are jobs that resemble handwringing of laundry, such as repeated insertions of screws or looping of wires.

Particularly bad for fingers are tasks that require too wide a grip on a handle while pushing down a finger. If repeated too long, this can result in inflammation of the finger joints, or "trigger finger."

The only finger that can withstand repeated flexing is the thumb. The muscles from the other fingers reach all the way down the forearm to the elbow region, while thumb muscles are short and strong, leading only to the palm of the hand. Thus, whenever possible, push buttons operated by the thumb should be substituted for triggers activated by other fingers.

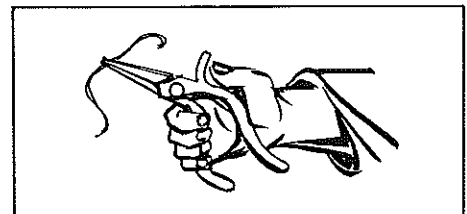
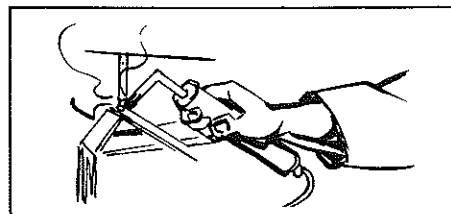


Flexed wrist (A) cannot hold a rod firmly or comfortably, as can straight wrist (B). Jobs that call for this kind of grasp should be redesigned. Conversely, flexed wrist (C) is better for fine finger movements than straight wrist (D).

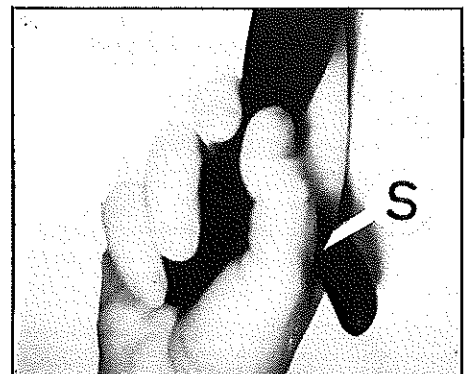
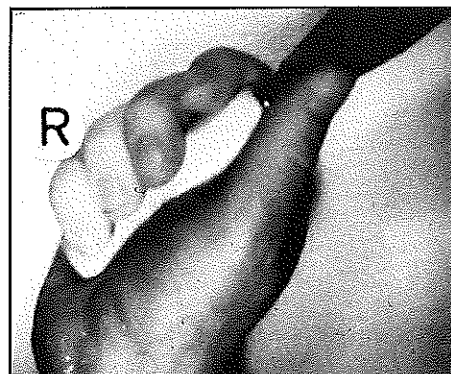
### A tenosynovitis checklist:

The following questions can help you to evaluate whether your job or workplace is conducive to tenosynovitis and other hand ailments.

- Does your job involve constant, repetitive flexing of the wrists or fingers?
- Does it involve grasping a tool or other object while flexing the wrist?
- Do you use tools or workgloves that are too big for you?
- Is your seat so near or so far from your work as to cause strain on your arms or wrists?
- Does your job call for awkward positions or uncomfortable movements of the arms or wrists?
- Is there some way that your job pattern could be redesigned? Your tools? Your workplace?
- If not, could the job be slowed down, or could your work be alternated with some other task during the day?



Drawings show tools designed with bent noses so that wrist can remain straight. Photos below show handle of a paint scraper redesigned (S) so that it rests on strong tissues between thumb and index finger. In (R) conventional handle presses on major blood vessel in palm of hand.



## Two Women's Groups Study Workplace Health

Two important women's organizations, the Coalition of Labor Union Women (CLUW) and the National Women's Health Network, have begun major projects in occupational health and safety.

CLUW's new Health and Safety Advisory Board held its first meeting in Washington, D.C. on February 23. It plans to develop model training programs to educate labor union women to recognize health hazards on the job. In the future, it will also work on strategies to eliminate such dangers. Development of its projects was funded earlier this year by a grant from the federal Occupational Safety and Health Administration (OSHA).

The National Women's Health Network is developing an information package on job health hazards which will be available to both Network members and the general public. The Network, formed in 1976, now represents over 1,000 women's groups such as health centers, community clinics, health education groups, rape crisis centers and consumer groups, as well as individual health care providers and consumers.

CLUW was organized in 1974 to make unions more responsive to the needs of women, both organized and unorganized. To join, one must be a member of a trade union.

### Formaldehyde continued from page 1

cers, claims the industry group. However, studies on animals have shown nasal cancers in both monkeys and rats continuously exposed to very low levels of formaldehyde, it admits.

Women work with formaldehyde in such occupations as textile printing, photographic film making, deodorant and other cosmetic manufacturing and laboratory work.

## Three Dyes in Consumer Products Dangerous

The federal Consumer Products Safety Commission has granted a petition by artists' groups to ban three dyes containing potentially carcinogenic substances. They are benzidine, o-tolidine and o-dianisidine dyes, all commonly found in consumer fabric dye products.

Because of large cuts in the CPSC budget, however, it may be some time before the agency can promulgate regulations to remove the dyes from the market.

The three dyes are most often used in darker colors, such as browns, blues and blacks. Since benzidine dyes have been directly linked to bladder cancer, pressure from consumer groups has convinced manufacturers to remove most of them from the market.

"But these companies often substitute other chemically related dyes which

may be just as dangerous," says Dr. Michael McCann, director of the Art Hazards Project of the Center for Occupational Hazards, one of the groups that joined in the artists' petition.

Some benzidine dyes may still be on retail store shelves and in consumer homes, he added, because there can be a time lag of as much as two years between the time a product is withdrawn and the time it disappears from the market.

## WOHRC Compiling Equipment List

A list of companies that stock personal protective equipment in women's sizes is now being compiled by WOHRC in response to numerous requests received from readers, union members, management and professionals. The information will be presented at the American Industrial Hygiene Association meeting in May.

The list will be compiled from a questionnaire that has been sent to 400 manufacturers and distributors of safety glasses, masks, gloves and similar equipment.

"We do not consider it adequate to equate men's small sizes with average women's sizes," noted WOHRC staffer Dr. Denise Murphy who is in charge of the survey. "In addition to gathering information, we hope that the questionnaire will do some consciousness-raising on the part of manufacturers."

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