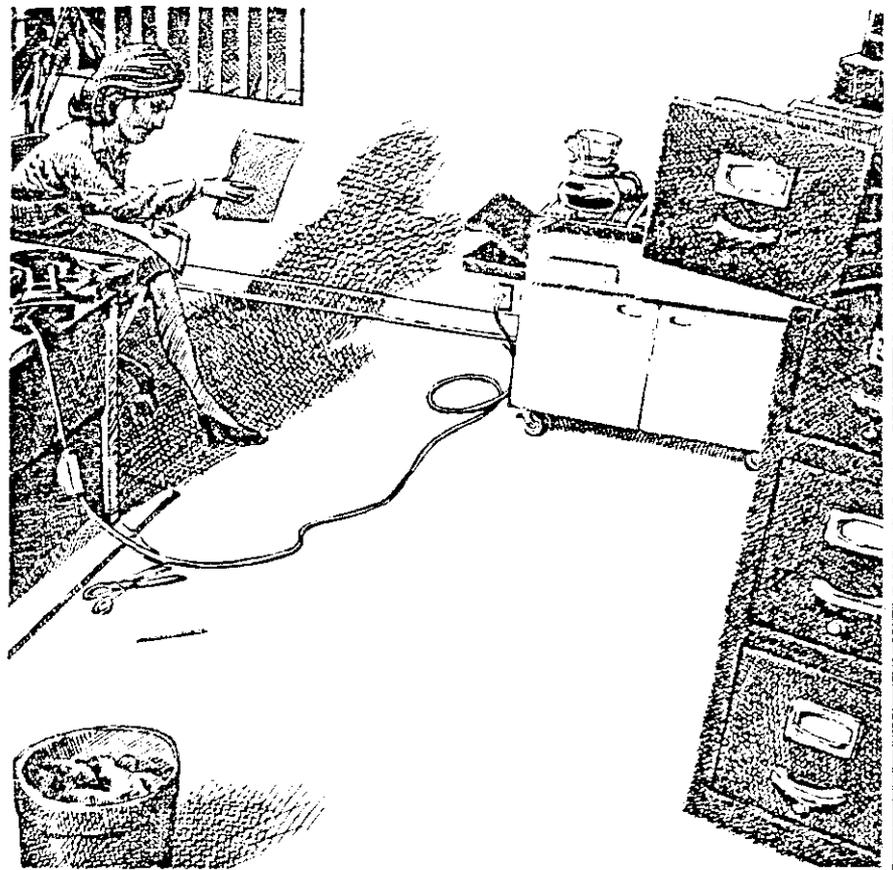


# WHITE-COLLAR WORKERS BEWARE

Offices may be hazardous to your health

BY JULIANNE LABRECHE



**I**N THUNDER BAY, ONT., PROVINCIAL office clerk Darlene Weiss has cataracts. She blames her cloudy eyesight on a video display terminal at work. In Winnipeg, Man., Gershon Sucharov was president and general manager of his own insurance firm until his hypertension became so severe his doctor warned him not to work. He's convinced the tension, which caused him anxiety, high blood pressure and depression, was aggravated by the stress of operating his own business. In Hull, Que., federal civil servant Vera Wall, who works in a government complex known as Les Terrasses de la Chaudière, is plagued by headaches, a sore throat and exhaustion. She blames her troubles on the building's bad air.

Blue-collar workers move over. While white-collar workers haven't resorted to wearing safety helmets and steel boots yet, they're slowly starting to realize the occupational hazards inherent in their jobs, too.

"White-collar workers are coming out of the closet," says Colin Lambert, a special assignments officer mainly responsible for health and safety, with the Canadian Union of Public Employees (CUPE), whose union represents 275,000 people, one-quarter of them office workers. "Office workers used to be complacent about their health. Now, whenever we meet over occupational health and safety issues, the best response comes from office workers."

No wonder. Traditionally, office work

*Thousands of Canadians suffer office injuries every year, not to mention the risks of long-term exposure to their environment*

has been considered safer than crossing a quiet street on Sunday. The notion is false. No reliable estimates are available in Canada, but in the U.S. the nation's 25 to 30 million office workers were reported in 1976 to suffer more than 40,000 disabling injuries and more than 200 deaths a year from job-related hazards. Overall, the direct cost to business and industry was figured, conservatively, at about \$100 million a year in medical and indemnity expenses alone.

Hazards in the office environment aren't virgin research territory, but almost. Few office workers have been interviewed about the occupational dangers of sitting behind a desk pushing paper all day. The only Canadian study of this sort was undertaken by a Quebec government health and social service clinic in 1978. The survey, entitled *A Report: Health Evaluation Of Office Workers*, involved 1,530 Montreal employees who worked in 10 offices in Complexe Desjardins on St. Catherine Street West, one of the city's largest office complexes, which then had 9,000 employees.

Many office workers interviewed complained about their offices, with 70 percent

saying they were bothered by noises and 22.5 percent commenting that their office was too hot or cold for working comfortably.

More than 36 percent said their job made them "anxious," 35 percent said they had difficulty falling asleep at night because they couldn't forget work-related problems and 56 percent felt tired when they started work in the morning.

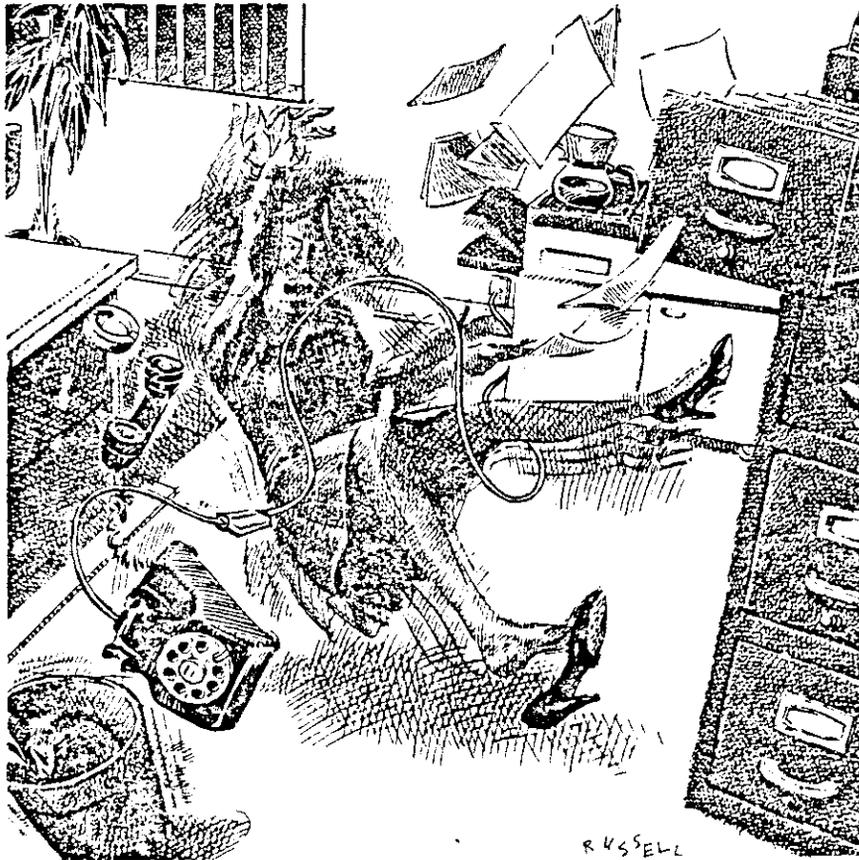
Other health troubles related to the office showed up, too. Some 43.6 percent of workers regularly complained of eye fatigue, 26.6 percent had headaches, 25.6 percent suffered from poor circulation and 12.6 percent complained of stomach and intestinal problems.

Troublesome statistics. Especially when, according to Jean Jalongo, a Montreal psychologist, the findings apply to all employees who work in an office setting. Jalongo, along with seven others, spent more than a year conducting the survey. Of those 1,530 Montreal employees, most were typical of office workers throughout the country.

"It's true workers in factories and mines have more obvious physical health hazards," he concludes. "The problems of office workers are different, but just as important in their own way."

His words ring true. Just ask Darlene Weiss or Gershon Sucharov or Vera Wall.

TRADITIONALLY, OFFICE SAFETY MANAGERS have been concerned with injuries



*Nearly half of all office accidents are caused by tripping over wastepaper baskets or telephone cords*

and accidents that can be prevented simply by using a little common sense. An estimated 30,000 Canadians are injured in offices every year.

"There are lots of opportunities for accidents in the office," says Stan Fields, national safety manager for IBM Canada, Ltd., whose Toronto headquarters employs about 1,650 office workers. "Mostly, they're the same kinds of things that occur in the home, mainly minor things. We have not had anything we can consider a serious injury. Nor have I heard of any serious white-collar accidents."

Office safety manuals sometimes distributed to employees outline the everyday kinds of injuries. Slips and falls, according to the Canada Safety Council, are responsible for nearly one-half of all disabling injuries to office workers. Typically, these accidents are caused by tripping over wastepaper baskets, open drawers or telephone and electrical cords. Or they're caused by walking through a coffee spill or using an unsteady chair to reach high shelves.

Back injuries affect office workers who try to lift heavy objects—a pile of books, a file cabinet, a desk, for instance, while those using worn or damaged electrical office equipment can get electrical shocks. Bleeding and bruised fingers are sometimes the consequence of leaving pointed instruments, such as compasses, scissors, pens and pencils, lying loose; painful wounds are caused by rubbing against furniture with

metal burrs or wood splinters, and serious injuries occur when top file drawers are overloaded, causing the cabinet to tip when higher drawers are opened. All these accidents can easily be prevented by careful forethought.

Michael Hollett, formerly a spokesperson at the Ontario Workmen's Compensation Board, says that accidents occasionally happen that require more than just a few days of recovery. One Toronto employee missed 28 days of work after the wheels jammed on her office chair. She tipped over and struck her shoulder on the edge of her desk, suffering a contusion to her shoulder that temporarily limited her arm movements. Another employee missed 45 days of work when, after crouching to pick up some files, she stood up and struck her back on a drawer opened by a second employee. Yet another office worker broke his ankle when his crepe-soled shoes jammed as he stepped onto a carpet.

"The injury frequency in offices can be as high as in industrial areas. The difference is, the severity isn't the same," says Wayne Chambers, recently retired safety manager at Imperial Oil Ltd. in Toronto. The worst office accidents at Imperial, he recalls, involved an office worker who leaned back in his reclining chair and fell over, puncturing an eardrum, and a young woman who injured her back by tripping over a fibreglass pad laid under a desk. Not exactly comparable to mine cave-ins and broken necks from construction accidents,

but serious all the same.

To guard against office accidents, health and safety committees, comprised of both office workers and management, have been set up at Imperial. Other companies, including IBM and Bell Canada, have safety audit groups that make regular inspections of offices to ensure their safety. Bell office managers even keep a prevention plan manual which contains an office safety quiz that is gone over individually with each employee.

While office accidents continue to concern safety managers, more recently, other aspects of white-collar occupational health and safety have caught the experts' attention. There are a number of low-level, longer-term risks associated with the physical design of the office environment, and an office's layout, air, noise and lighting all come into play. Because these risks are cumulative, they're hard to prove. Potentially however, they're more hazardous than tripping over wastebaskets and telephone cords.

According to George Rand, a psychologist who teaches environmental design at the University of California in Los Angeles, (UCLA), the typical enclosed office building has been designed to increase productivity by eliminating concern with external environmental conditions—dust, darkness, humidity and extremes of temperature.

Warns Rand, "In effect, the concept of environmental control may be backfiring."

The artificial environment, he says, may be the cause of a wide range of pulmonary, digestive, ophthalmologic and dermatological diseases.

Take office air, for instance. With energy costs mounting, the trend is toward tighter insulation and more closely controlled ventilation systems. By sealing buildings tight, treated air can simply be recycled. But with recycling comes a buildup of chemical substances normally found in the office environment. There are chemicals released from indoor construction materials and furnishings, such as asbestos, formaldehyde and vinyl chloride, along with air fresheners, solvents, adhesives in building products, cleaning fluids, fire-retardant materials and cigarette smoke. The effect, says Rand, "may be turning the inside of sealed buildings into virtual gas chambers."

The effect on office workers is sometimes called "Office Building Syndrome" (OBS). At best, it means office workers experience a mid-afternoon slump, yawn a lot and are less productive. Often, it means colds, arthritis, allergies and eye irritations. Because serious toxicological studies are lacking, perhaps the worst effects remain unknown.

SHORTLY AFTER TAMARA LEVINE, A FEDERAL office worker, was transferred to Les Terrasses de la Chaudière in Hull a couple

of years ago, she began, for the first time, to feel fatigued and have headaches. Her eyes hurt and she suddenly had skin rashes, too. Although she didn't realize it, she had OBS. Like her co-workers, she complained, suspecting bad air, and was accused of being a hypochondriac. "It's all in your heads, they kept telling us," she says.

When an environmental working group consisting of Terrasses office workers decided to take a health survey, the results proved the symptoms real. Of the building's over 6,500 employees, nearly 2,000 employees had similar complaints. An uncommon number of pregnancy complications were reported in the survey and workers are worried there may be a link.

There have been other episodes involving bad air in the workplace. A couple of years ago, the trading floor of the Toronto Stock Exchange was cleared after traders complained of numbness in their chests and stomachs and incoherency in their speech. The suspected cause was lack of oxygen. In San Francisco, 250 employees in the Social Services Building, a tightly sealed government office building, were bothered by headaches and sinus conditions. OBS was suspected. In West Germany, several office buildings have been closed because of complaints among office workers that bad air quality was causing sickness.

Even less understood are airborne infections possibly carried in recirculated air.

By minimizing the amount of fresh air, the likelihood exists that these infections will spread among office employees. There are documented cases in which pollutants in buildings have been suspected of causing disease, says Elia Sterling, of T.D. Sterling Ltd., an occupational and environmental health research and consulting firm in Vancouver, B.C. The so-called Legionnaire's Disease in Philadelphia, Pa., is a well-publicized example. The most accepted theory to explain the disease, which killed 29 people and affected 182 others back in July 1976, is that a breed of microorganism, called *Legionella pneumophila*, somehow invaded the cooling system of the Bellevue Stratford Hotel in Philadelphia and spread among the guests. In another instance, also in the late '70s, a federal office building in Rockville, Md. was discovered to have a defective air-conditioning system that allowed microorganisms to pass from the building's laboratory to its offices. No office workers died, although many suffered from nausea.

Recirculated air in offices can also carry spores and fungi, which sometimes breed in improperly maintained air-conditioning systems. This can lead to cold-like irritations and allergies.

When these infections strike an office building, trying to avoid catching them is akin to attempting to stay healthy in a submarine when the crew has a bad bout of flu. Unless everyone wears a gas mask, the sealed enclosure is bound to cause germs to spread.

With a trend away from natural daytime lighting and an increasing dependence on artificial lighting, office lighting may be a danger too.

Controversy rages about the safety of cool-white fluorescent lighting, found in virtually all Canadian offices. Carefully controlled studies have linked ordinary fluorescent lamps to hyperactivity in children. Plants grown in hot houses under fluorescent lights produce strange, mutagenic reactions—growing roots up instead of down, for instance. Office workers have complained of the lights causing them mental and physical stress. Fluorescent lighting has been linked with headaches, nausea, eye irritations and even tooth decay.

"Office lighting is a very understudied area," says Victor Rabinovitch, program officer for workplace health and safety at the Labour Education and Study Centre of the Canadian Labour Congress in Ottawa. Although not entirely convinced of the hazards of fluorescent lights (his own office has them), he has other concerns. Most offices tend to be underlit or overlit and glare is a problem, he says, causing headaches and nervous tension.

Noise is something that can't be controlled by office workers. Very infrequently will office workers suffer auditory loss from high noise levels, says Earle Stone, managing director of Hearing Con-

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servation Consultants Inc. in Scarborough, Ont., a company that tests and analyzes the hearing of some 50,000 Canadian office and industrial workers annually. However, he does recall a couple of instances in which hearing loss occurred among office workers in computer rooms. Because of the loud noise of computer printers, workers became unable to hear high frequencies.

More often the effects of office noise are non auditory and stress-related. Typewriters tapping, phones ringing, secretaries chatting, copying machines clacking, file cabinets slamming, are all, at times, nerve-racking. "Our studies have shown that office noise causes things like elevation in the pulse rate and fatigue," says Slone. This rise in blood pressure means a greater likelihood of heart attack. Non auditory effects of noise are more prone to happen with open-office landscaping, where large numbers of office workers are not even separated by cloth partitions.

To mask the sounds of conversation and office equipment in open offices, many architects and acoustical engineers are pushing "white noise." It's a slight hiss piped in through loud speakers, intended to create privacy by hiding other noise. This concept, too, may be backfiring.

When Robson Square, part of a \$160-million courthouse complex in Vancouver, opened a few years ago and white-noise makers were installed, office workers in the complex reacted immediately. They complained of nausea, headaches and fatigue. As usual with office-related illnesses, the case was difficult to prove.

As Elizabeth Wright of the British Columbia Workmen's Compensation Board says: "If somebody gushes blood, you know they have a problem. But when people say, 'Gee, I'm really fed up and don't know why, and I have headaches and nausea and irritation,' it's very hard to pinpoint."

PROVING THE DANGERS OF OFFICE EQUIPMENT is equally difficult. Like other parts of the office environment, office machines are not risk-free. Right now, the storm of debate centres on video display terminals (VDTs). Feminist groups nickname them Very Dangerous Technology. An estimated 250,000 VDTs are now in use in Canada.

A study prepared by Colin Lambert of CUPE explores the range of potential problems which exist with the terminals. One of the main complaints from VDT workers is that they suffer from eyestrain, caused by flickering, reflection, glare and brightness. One survey cited by Lambert, conducted by the union representing Associated Press in the United States, showed that 33 percent of workers polled complained that their eyesight had deteriorated since working with VDTs.

Eyestrain, in turn, can lead to a number of systemic symptoms: headaches, muscular aches in the neck and arms, fatigue,

irritability, nausea and vomiting.

Physical hazards with VDTs, connected with muscle fatigue, are caused if the office worker's chair is too high or low, or if there is insufficient back support. There are physical stresses, too, because VDTs can create sufficient heat to make the office worker uncomfortable. There have also been reports of possible birth defects. Four pregnant women working on VDTs at the *Toronto Star* newspaper had birth abnormalities. Various studies have subsequently discounted this hazard, but uncertainty lingers on. Says Lambert, "The whole question of the mutagenic and carcinogenic potential of VDTs is still open and requires much greater investigation."

Like other unions representing white-collar workers, CUPE is also concerned with photocopying machines. In a health and safety alert issued by the union, CUPE warned that office workers exposed to photocopying machines in areas that lack adequate ventilation are complaining of a number of symptoms: skin rash, ringing in

### *Recycled air and chemical buildup may be turning the insides of sealed buildings into virtual gas chambers*

the ears, feeling light-headed, dizziness and coughing.

The machines release minute amounts of ozone (a highly toxic gas), heat, noise and light. Some of the chemicals used as toners—nitrotyrene and trinitrofluorenone, for instance—have proven mutagenic properties. The best remedy, says the union, is to isolate the machine in a separate room and ensure it is well-ventilated.

In coming out of the closet, office workers are determined to reduce the odds of becoming just another statistic for Workmen's Compensation boards. For a start, they're taking better care of themselves—jogging, quitting smoking and reducing cholesterol, salt and refined-sugar in their diets.

As well, they're pushing their unions to investigate the hazards connected with their work. The Canadian Labour Congress is currently involved in a survey of some 2,500 office employees in eight Canadian cities—the largest study of its kind. Workers are being questioned about a range of concerns—working hours, the nature of their work, light, air and chemicals. The survey will also attempt to determine the nature and extent of health problems involving VDTs.

At CUPE, Colin Lambert is cooperating with Jeanne Stellman of Columbia University in New York on a major study of office environments. They're examining a number of office buildings and interviewing

employees about office stress, related to lighting, noise, air and work itself.

Equally important, just like blue-collar workers, office workers are starting to stand up for their rights and demand that hazards in the work environment be eliminated. This won't be easy. Too often, office managers tend to ignore complaints of colds, arthritis, allergies and eyestrain, viewing them as minor irritations and easily treated by self-prescription. Besides, because so many office workers are women and women tend to be suspected of being hypochondriacs, many times their claims are considered exaggerated.

Even safety experts sometimes dismiss the dangers. Says Jim McLellan, director of occupational safety and health at Labour Canada in Ottawa, "It takes all of our resources to focus on blue-collar workers. I compare the hazards of office work to falling hair among men." In other words, minor compared with the lung diseases, cancers and physical disabilities which afflict workers in more dangerous occupations.

The claims by office workers will have to be fought case by case, before the courts, if necessary, when demands are made that financial compensation for office-related illness be awarded. For office worker Darlene Weiss, it meant taking her case to the Ontario Workmen's Compensation Board. Initially, her claim that a VDT caused her cataracts was rejected and she's now in the process of appealing the case. Should she win, the case will set a precedent for other provincial boards.

Last April, insurance president Gershon Sucharov was awarded disability insurance of about \$70,000 in past benefits, with due opportunity to collect \$230,000 over the next 16 years, providing he remains disabled. The amount is to be paid by Paul Revere Life Insurance Company where he had an executive disability insurance policy. Although an appeal date is set for October 26, the decision is significant because it recognizes that stress and strain in a managerial post can cause hypertension so severe it can prevent a person from working. And there are other hopeful signs as well.

Federal civil servant Vera Wall and her co-workers stood in the main lobbies of Les Terrasses de la Chaudière asking for \$1 donations to help their cause and handing out buttons marked "Terrasses de la Shoddy Air." Eventually, after many months, they were successful in having a thorough study of the building's air and ventilation system launched by government authorities. Health and Welfare Canada came out with a report in July 1981 confirming that there are serious structural problems in the building.

The first hurrahs are finally happening. And not a moment too soon. As modern offices of the '80s turn increasingly into engineer-designed machines, the timing could not be better.