

PREVENTING OCCUPATIONAL CANCER

Substances that are able to cause cancer are called

Carcinogens

Cancer is the most deadly disease known. Once you develop the disease, it is often too late to do anything about it. Since most cancers are not curable the best solution is **PREVENTION**.

Many scientists believe that 80-90% of all human cancers are caused by environmental agents, such as chemicals, food additives, tobacco, or air pollution. Sometimes cancer does not show up for 15, 20 or even 40 years after the first exposure to a cancer-causing substance. Even brief exposures have been known to cause cancer.

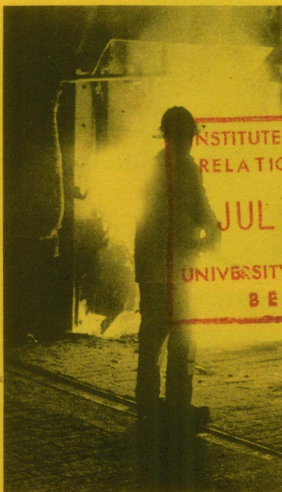
Asbestos, benzidine, and vinyl chloride are examples of known carcinogens that are used on the job. Many workers exposed to:

ASBESTOS develop **Lung, Stomach, Intestinal Cancer and Mesothelioma**—cancer of the lung or abdominal lining.

BENZIDINE develop **Bladder Cancer**

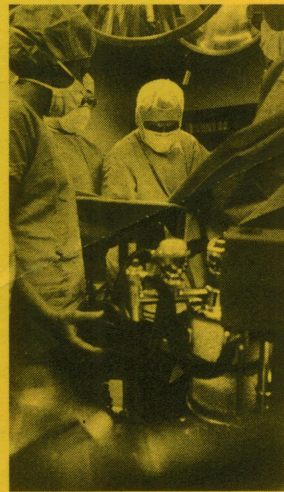
VINYL CHLORIDE develop **Angiosarcoma**—a rare liver cancer

The most common sites in the body for occupational cancers to occur are the skin, bladder, and lungs.



Occupational cancer isn't restricted to the factory. Operating room employees exposed to anesthetic gases suffer higher than normal rates of leukemia and lymphoma.

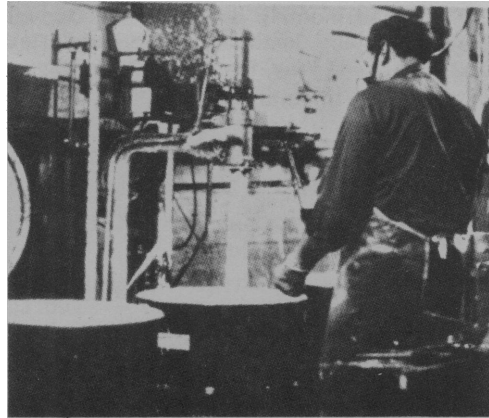
Steel workers have high rates of respiratory, bladder, and kidney cancer. In special danger are coke oven workers who are dying from lung cancer at a rate 15 times higher than the general population.



WHAT CAN BE DONE TO PREVENT OCCUPATIONAL CANCER?

Because of the long time it sometimes takes for cancer symptoms to appear, it's easy to think that a dangerous job is safe. But don't be fooled. Many workers develop occupational cancer YEARS after they begin working with a chemical that they assume is "safe."

Often workers are exposed to a chemical that has not been tested to see if it causes cancer. Or workers have simply not been told that laboratory experiments show the chemical is carcinogenic.

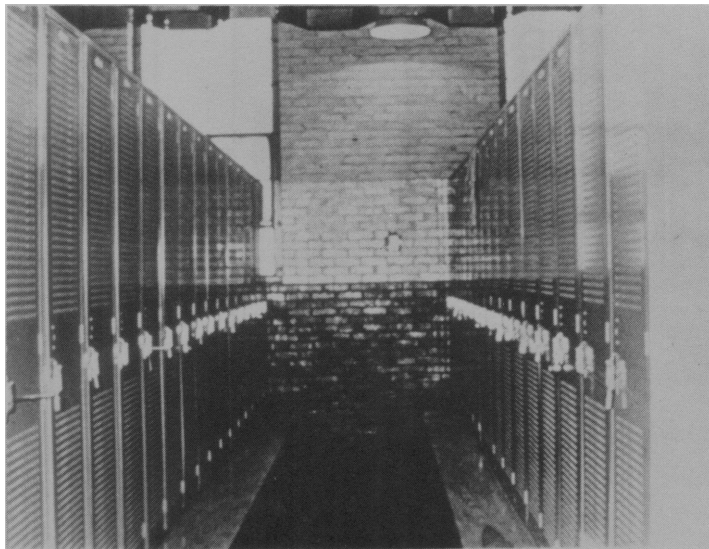


Workers exposed to vinyl chloride have higher than expected rates of liver cancer and possibly lung and brain cancer.

To prevent occupational cancer, certain rules must be followed:

1. Toxic substances should be tested on laboratory animals **BEFORE** workers are exposed to them to determine if the chemicals cause cancer or other adverse health effects.
2. Whenever possible, safer substitutes should be used instead of cancer-causing substances.
3. If carcinogens must be used because there is no safer substitute, worker exposure should be kept as close to **ZERO** as possible. Since **THERE IS NO KNOWN SAFE LEVEL OF EXPOSURE TO A CARCINOGEN** employers should be required to use the best available technology to reduce exposures.
4. Engineering controls and work practices should be strict enough to eliminate worker exposure. Adequate exhaust ventilation for dust and fumes should be installed to clear the air of the carcinogen. Dangerous processes should be enclosed or redesigned.
5. Respirators and other devices should be used only as a **LAST RESORT** if engineering controls fail to reduce exposures to **ZERO**.

6. Air and personal monitoring should be conducted regularly to insure that workers are not being exposed to the cancer-causing chemicals. Workers must have access to this information.
7. Workers should receive appropriate medical tests to detect particular kinds of cancer. If there are suspicious results, workers should be removed from exposure, transferred to safer jobs, and given intensive, follow-up exams.
8. Monitoring and medical records concerning worker exposure should be carefully maintained and preserved.
9. Periodic government inspections should be regularly performed to insure that worker exposures have been eliminated and that the plant is in full compliance with all regulations.
10. Programs should be instituted to educate workers and their representatives about the hazards of exposure to cancer-causing substances and necessary safety precautions.



Employees need lockers and change rooms where they can put on clean, protective clothing. Contaminated clothing should be left at work for special laundering so that toxic materials are not carried home.

Common Occupational Carcinogens

Agent	Organ Affected	Occupation
Wood	Nasal cavity and sinuses	Woodworkers
Leather	Nasal cavity and sinuses; urinary bladder	Leather and shoe workers
Iron oxide	Lung; larynx	Iron ore miners; metal grinders and polishers silver finishers; iron foundry workers
Nickel	Nasal sinuses; lung	Nickel smelters, mixers, and roasters; electrolysis workers
Arsenic	Skin; lung; liver	Miners; smelters; insecticide makers and sprayers; tanners; chemical workers; oil refiners; vintners
Chromium	Nasal cavity and sinuses; lung; larynx	Chromium producers, processors, and users; acetylene and aniline workers; bleachers; glass, pottery, and linoleum workers; battery makers
Asbestos	Lung (pleural and peritoneal mesothelioma)	Miners; millers; textile, insulation, and shipyard workers
Petroleum, petroleum coke, wax, creosote, anthracene, paraffin, shale, and mineral oils	Nasal cavity; larynx; lung; skin; scrotum	Contact with lubricating, cooling, paraffin or wax fuel oils or coke; rubber fillers; retort workers; textile weavers; diesel jet testers
Mustard gas	Larynx; lung; trachea; bronchi	Mustard gas workers
Vinyl chloride	Liver; brain	Plastic workers
Bis-chloromethyl ether, chloromethyl methyl ether	Lung	Chemical workers
Isopropyl oil	Nasal cavity	Isopropyl oil producers
Coal soot, coal tar, other products of coal combustion	Lung; larynx; skin; scrotum; urinary bladder	Gashouse workers, stokers, and producers; asphalt, coal tar, and pitch workers; coke oven workers; miners; still cleaners
Benzene	Bone marrow	Explosives, benzene, or rubber cement workers; distillers; dye users; painters; shoemakers
Auramine, benzidine, alpha-Naphthylamine, beta-Naphthylamine, magenta, 4-Aminodiphenyl, 4-Nitrodiphenyl	Urinary bladder	Dyestuffs manufacturers and users; rubber workers (pressmen, filtermen, laborers); textile dyers; paint manufacturers

Source: National Cancer Institute

ARE THERE REGULATIONS FOR CARCINOGENS?

Both federal and CAL/OSHA have special regulations for 16 substances that are known to cause cancer:

2-acetylaminofluorene	chloromethyl methyl ether (CMME)
alpha-naphthylamine	3, 3'-dichlorobenzidine
4-aminodiphenyl	dimethylaminoazobenzene
asbestos	ethyleneimine (EI)
benzidine	4, 4'-methylene bis-(2-chloroaniline) (MOCA)
beta-naphthylamine	4-nitrodiphenyl
beta-propiolactone	nitrosodimethylamine
bis-chloromethyl ether (BCME)	vinyl chloride

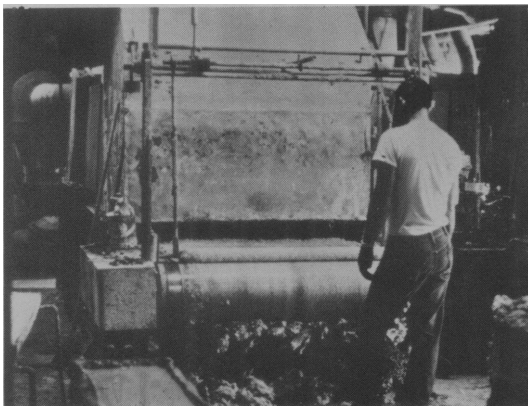
Although other chemicals are now known or suspected to cause cancer, those listed above were the only ones with special regulations as of May 1976.

CARCINOGENS are used or manufactured at many plants throughout California. With the exception of asbestos—any employers using or manufacturing any of the 16 carcinogens listed above, must report such use to California's Division of Industrial Safety (DIS). Some employers who reported are:

Johns-Manville, Pittsburg—Asbestos
Diamond Shamrock, Redwood City—BCME
Rockwell International, Thousand Oaks—Benzidine
Westinghouse, Sunnyvale—MOCA
B. F. Goodrich, Long Beach—Vinyl Chloride

But as of January 1976 only 27 employers in the state of California had reported using one or more of these carcinogens. Many more employers are suspected of using them but have not yet reported.

Since there is no complete list of plants, labs, or warehouses handling or storing these chemicals, it is very difficult for DIS to target special carcinogen inspections.



Incidence of lung cancer in asbestos workers is 7 times higher than normal. Asbestos workers who smoke have an even greater risk. An estimated 300,000 of the one million current and former asbestos workers in this country are expected to die from cancer.

ARE THE CURRENT REGULATIONS SUFFICIENT TO PROTECT WORKERS?

The current CAL/OSHA carcinogen regulations are nearly identical to the federal standards. Neither provides adequate protection for all workers exposed to the cancer-causing substances.

With the exception of vinyl chloride and asbestos, the standards for those chemicals listed on page 6 do not require:

- air monitoring of the workplace
- medical tests to detect the specific kinds of cancer caused by the chemicals, or
- a “performance standard”—a limit to the amount of chemical allowed in the air.

The standards require work practices, ventilation, showers, signs, and protective clothing. But without monitoring the air that workers breathe, there is no way to detect whether the work practices eliminate worker exposures to the deadly chemicals.

Even where the standards require monitoring and medical tests—as with *ASBESTOS*—workers report that few employers are complying with the rules and that government inspections are sporadic at best.

HOW CAN WORKER PROTECTION BE INSURED?

A **USE PERMIT SYSTEM** would provide better protection because an employer would have to obtain a permit (or license) to use a cancer-causing substance. Unions and public interest groups advocated such a system during federal hearings on the carcinogen standards. The Oil, Chemical and Atomic Workers Union and the Health Research Group in Washington, D.C. even sued the Labor Department for failing to institute a use-permit system.

HOW WOULD A USE PERMIT SYSTEM WORK?

A permit system would **PROHIBIT** the use of a cancer-causing chemical unless the employer could demonstrate through reports and regular government inspections, that:

- there is no safer substitute to use
- worker exposure will be kept as close to **ZERO** as possible
- all requirements of the OSHA standards have been met.

If the inspections showed that the employers were **NOT** protecting their workers, the permit to use the carcinogen would be withdrawn until the hazard was corrected. Operating without a permit would subject the employer to a significant fine.

Although the federal standards do not have such a system, the State of California could institute one.

WHAT CAN WORKERS OR THEIR UNION HEALTH AND SAFETY COMMITTEES DO?

1. Become familiar with the CAL/OSHA carcinogen standards and complaint procedures.
2. Report to CAL/OSHA if their plant uses one of the carcinogens.
3. Seek more effective control of carcinogens through collective bargaining.
4. Be sure that the 10 rules for preventing occupational cancer are followed.

Your Health Depends On It

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