

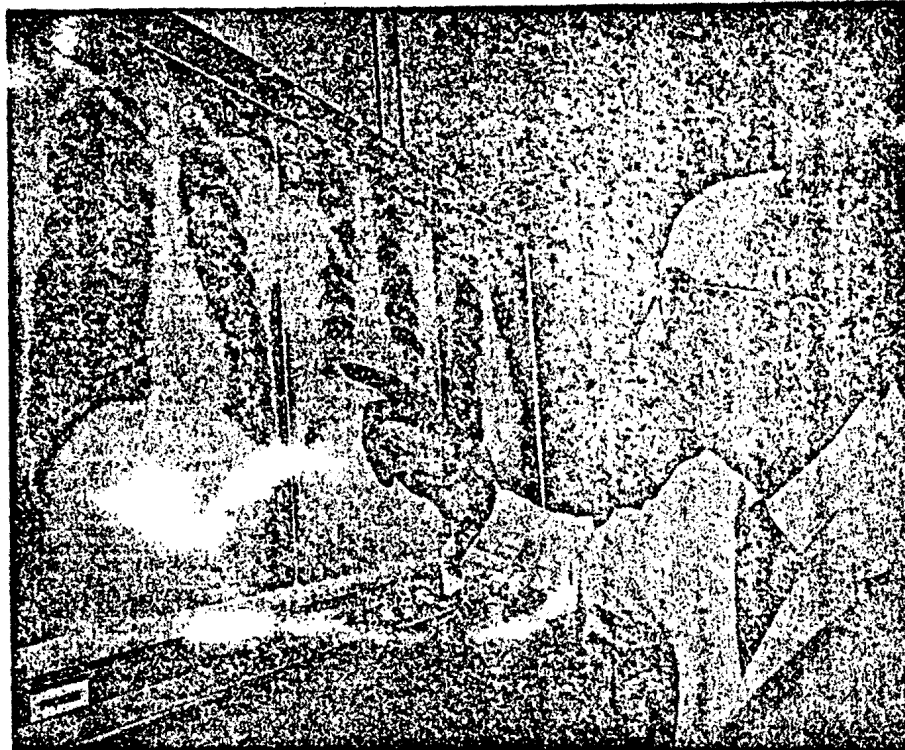
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THE LOOK OF ASBESTOSIS: Dr. Joseph Cowie of the Ontario Department of Health shows how tiny particles of asbestos that have lodged in human lungs cloud x-rays. At left is a normal lung. Several deaths in Metro have been attributed to asbestos.



THE RESULT OF ASBESTOSIS: Ed Bader, 65, takes oxygen to help cope with breathing problems. He worked 34 years in a factory that produced asbestos products. Doctors are trying to find out whether asbestos is a lung cancer risk.

Newest pollution discovery: Asbestos can be a killer

As soon as he wakes up each morning, Ed Bader reaches over to

Things inside the plant have to improve. It's a matter of life and death

"80 per cent showed moderate or extensive evidence of asbestosis."

the 4,500 men in Ontario who work with asbestos is the object of great

asbestos workers will suffer serious health damage

"We've got the whole thing in a nutshell"

the man on his back for a small plastic apparatus, puts it on his face and for the next 15 minutes breathes in pure oxygen.

He repeats the same procedure before going to bed at night.

This twice-daily ritual is necessary because Bader, 65, has asbestosis, a lung disease that afflicts people employed to handle asbestos. There have already been several deaths in Metro attributed to asbestosis.

Asbestos is also suspected to be a health hazard to the general public.

Asbestosis is the result of tiny asbestos particles becoming lodged in the lungs. Bader has a bad case and has grave difficulty breathing.

When engaged in ordinary conversation he gasps for breath. He can no longer push a lawnmower and even walking presents problems. At night he frequently startsles from his sleep, struggling for breath.

It's killing me

Bader, tapping his chest, recently told The Star, "It's the asbestos in my lungs. It's killing me."

It probably is. For 22 years, while working in a Metro factory which produces asbestos products, he breathed in billions of tiny, tough asbestos fibres. The asbestosis victim is beyond medical help because the asbestos fibres are indestructible.

They decrease the elasticity of the lungs and experience has shown that the condition of an asbestosis victim can only worsen.

A number of recent events have drawn attention to asbestos as a health hazard.

Last month the 527 members of the International Chemical Workers Union walked out of the Johns-Manville plant in Scarborough, claiming that health, not money, was the main issue.

Robert Stewart, the union manager, said:

"Four of our people have died and 11 have been disabled by asbestos-caused diseases. The safety standards—as set up and policed by the company and the provincial departments of labor and health—can't be trusted."

"They've done a lousy job for us."

to us."

The strike is still on. William Young, the plant manager, says, "We observe all the safety regulations laid down by the provincial government."

Meanwhile, the 750 members of the Asbestos Workers Union (Local 95), the other major grouping of men who handle asbestos, also went on strike. They recently settled because they won a big raise and a short contract, but they're still disgruntled over the health hazard.

They work on construction sites installing asbestos water pipes, spraying an asbestos protective solution on structural steel and applying various types of asbestos material that provides insulation for heating, refrigeration and air-conditioning.

The results of the 1971 x-ray test of 520 union members, conducted by the provincial department of health, were recently announced: The lungs of 14 men showed changes "suggestive of asbestosis."

Alex Taggart, a union official, finds this figure highly disturbing. "We've already had six deaths because of lung disease," he said. "Only a few months ago, George Cousins passed away."

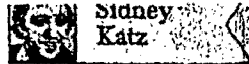
During his 30 years as an insulation worker, Cousins helped with the construction of dozens of factories, hospitals, high-rise apartments and office buildings.

Breathing labored

When he reached the age of 60, he found that he was so tired when he came home at night that he had to go to bed. His breathing became progressively more labored. Alice, his widow, who lives in the Danforth-Coxwell area, recalled:

"His condition rapidly worsened until he couldn't walk up a flight of stairs without being completely exhausted. He had to give up hunting which was always the love of his life. George was a fighter and insisted on going off to work every morning. But he had to quit two years before the retirement age of 65."

The couple then began spending five months of the year in their Muskoka cottage, hoping that the pure air would clear up his lung condition. It was a futile dream. George



Cousins' condition worsened and he died.

Most of the cases of asbestos-linked diseases and deaths have been reported only within the past few years and with good reason: It takes 20 to 30 years of exposure to asbestos dust for the disease to gain a firm foothold.

It's also significant that only in the past 25 years has asbestos become a widely-used material. During that period, Canadian annual asbestos production—nearly all of it mined in Quebec—has risen from 466,000 tons to three times that amount.

Asbestos everywhere

Today, there's hardly a home, office, factory, plane, ship, automobile or engine that does not contain asbestos in one form or another. Some of the fibres find their way into human lungs.

Last month, at the invitation of local unions, Dr. Irving Selikoff visited Toronto to discuss the health hazards of asbestos handling. Selikoff is a past president of the New York Academy of Science and head of the environmental sciences division of New York's Mount Sinai Hospital school of medicine.

For the past 30 years, he has been studying asbestos as an occupational hazard.

"We can expect worse things ahead," he predicted. "We have yet to learn to live with asbestos."

The asbestos worker on construction sites, he said, will eventually show six or seven times the normal rate of lung cancer, three times the normal rate of cancer of the colon, stomach and rectum.

Mesothelioma—a malignant tumor that grows in the upper chest wall and abdomen lining—is found in one of every 8,000 people in the general population. In asbestos workers, the occurrence is one of every 10.

In one group of 400 asbestos workers who had been on the job for 20 years or more, Selikoff reported that

out, because urban dwellers can't avoid being in constant contact with asbestos today, a new question is being posed: Has asbestos become a dangerous pollutant to the average person?

Asbestos may be liberated from automobile clutch and brake linings. Buildings are being demolished which are rich in asbestos materials which may find their way into the atmosphere. Asbestos is used in floor fillings, roofing materials, conveyor belts, in stoves, heaters and filing cabinets.

When Dr. W. A. D. Anderson, a University of Toronto graduate who is now a pathologist in Florida, performed autopsies on a large number of Miami people who had died of ill causes, he discovered that one in four had asbestos fibres embedded in their lungs.

When similar series of autopsies were performed in Montreal, New York and other cities, asbestos was found in 25 to 50 per cent of the bodies studied. "This documents the magnitude of asbestos exposure in general urban populations," said Anderson.

At present it's impossible to measure the amount of asbestos particles in a living person's lungs. The only test is one for general lung disability, which does not tell what the problem is. X-rays seldom work for early cases.

The seriousness of asbestos as a threat to the average urban dweller is still an open question. Anderson expected that, along with automobile exhaust fumes, general pollution of the air, and cigarette smoking, asbestos simply adds to the risk of lung cancer.

Caution is urged

Like other authorities on chest diseases, Dr. Joseph Cowie, of the Ontario department of health, cautions against pressing the panic button on asbestos in the general atmosphere.

"The researchers," he said, "have found fibres in the lungs of non-asbestos workers, coated by iron and protein. But it's not clearly established in what proportion of them the core is asbestos or some other particle inhaled from the air."

Currently, however, the health of

est immediate concern.

In factories where asbestos products are made—such as the Johns-Manville plant in Scarborough—many precautions are taken to keep asbestos out of the lungs of employees.

Powerful ventilating fans suck the air clean. Men handling powdered asbestos are required to wear masks. Three times a year, a company industrial hygiene unit tours the plant, taking several air samples.

Young, the plant manager, said, "The object is to make sure that the air is kept 'safe.'"

In official regulations, air is safe provided that it contains no more than five asbestos fibres, no longer than 1/25,000 of an inch, per cubic centimeter.

Inspectors call

From time to time, the plant is also visited by inspectors from the Ontario departments of health and labor. In addition to taking air samples, the health department also x-rays the chests of workers once a year and administers a lung performance test.

Dr. Cowie, in charge of the chest disease unit of the province's environmental health service, said: "If we find changes in the lung we inform the company physician and perhaps the worker's family doctor and the worker himself."

"In some cases, this information may lead to the worker being transferred to a job where there's less exposure to asbestos or to an early retirement."

According to union officials, these safety programs look great on paper but they're not preventing asbestos workers from being struck down by lung diseases.

The assumption that air containing five asbestos fibres per cubic centimeter can be inhaled with impunity is questioned.

"That standard may ultimately kill all of us," said Stewart of the International Chemical Workers Union. "It means that the average guy is inhaling 15 million fibres every eight-hour shift. According to Dr. Selikoff, this means that after 20 years of exposure, the majority of

"Neither the company nor the government can refute this conclusion because they don't know enough about the long-term hazards of exposure to asbestos."

"It's no accident that so many cases of asbestosis have been showing up in the past few years. The Johns-Manville plant was opened here 22 years ago—and it takes 20 to 30 years for the damage to be done."

Authorities like Dr. Cowie admit that gaps still exist in our knowledge of the hazards of asbestos exposure.

"Asbestos," he pointed out, "is a 20th century mineral. It's only comparatively recently that its dangers have been recognized. The safety standards we set are based on the best scientific information available."

But, because the demand for asbestos is increasing by 3 per cent each year, it's likely that the number of occupational casualties will increase in the future, he predicted.

The air monitoring program has also been singled out for attack by union officials and members.

Ron Proudfoot, 42, who has installed insulation in dozens of new buildings in the Metro area, says, "Often, if you look up towards the sunlight when you're working, you can see millions of asbestos particles floating in the air. You seldom see an inspector and air samples are rarely taken."

James Irwin, of the Toronto department of buildings, explained that his safety construction branch tries to have an inspector visit each building site at least once a week.

Can't be everywhere

"We only have eight inspectors and they can't be everywhere at once, standing behind each worker all the time," he said. "If there's a lot of pollution in the air, the worker should be wearing a mask. That's a regulation. But a lot of them won't do it. It's a hard regulation to enforce, especially in the warm weather."

The refusal of government health departments and management to disclose the quantity of asbestos found in the air samples is another source of union apprehension.

Chemical Workers Union. "For us, it's a matter of life or death. We've heard that some of the samples taken have checked out at 10 times above the maximum safety limit. I think we should be taking our own samples." Yonge, manager of the Johns-Manville plant, says his company is willing to discuss the disclosure of air monitoring results with the union.

Stewart emphasizes the need for constant surveillance of the air because prevention is the only way to stop fatalities among the asbestos workers.

Symptoms missed

"Sure," he said, "every year they take an x-ray of our lungs. But how valuable is it? By the time you can see the symptoms of lung disease on the film, it's too late to do anything about it."

Dr. Cowie agrees that early symptoms of diseases of the lung are often missed by radiology. He explained: "If the damaged tissue doesn't throw a shadow, we can't make a diagnosis."

How can the number of asbestos-linked health casualties be reduced? Following are some of the suggestions made to The Star:

(1) A Program of research to produce improved ventilation and exhaust systems, respiratory masks and enclosed containers in which to mix powdered asbestos.

(2) A more constant and efficient system of monitoring the air: improved techniques in manufacturing and installation of asbestos products that decrease the amount of pollution.

(3) Greater co-operation between government health departments, management and unions.

(4) The introduction of a provincial Asbestosis Act, containing comprehensive guidelines for the safe handling of asbestos. Hopefully, it would accomplish for asbestos workers what the Silicosis Act achieved by enforcing stringent safety regulations for miners.

"If we adopt such measures," said Dr. Irving Selikoff during his recent trip to Toronto, "then we can learn to live and work safely with asbestos."