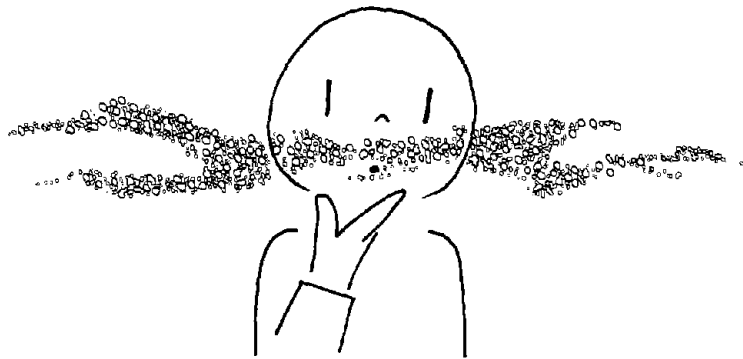


CAUTION:
ASBESTOS
DUST...



is hazardous to your health!



3 most common TYPES of asbestos...

CHRYSOCTILE

90% of all asbestos processed. Resists heat but not acid. Can be easily spun into asbestos cloth.



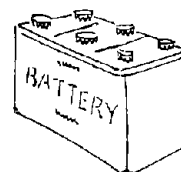
AMOSITE

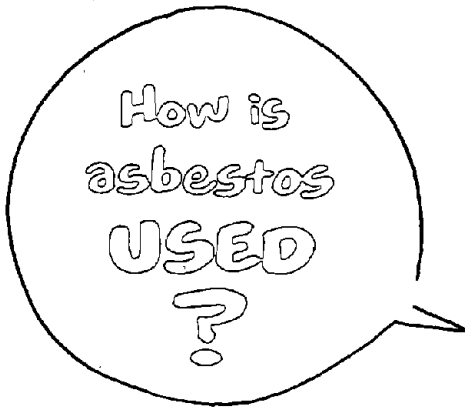
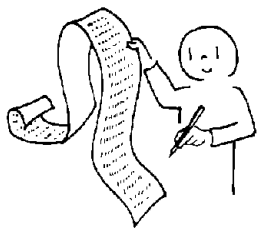
Acid and heat-resistant. Used in bulk form for heat insulation and molded into pipe insulation.



CROCIDOLITE

Poor heat insulation, but highly resistant to acid. Used to make acid-resistant cement pipe and in electric battery cases.

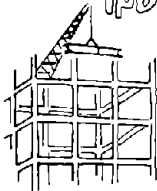




There are almost 3000
asbestos products manufactured today!

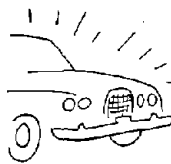
MAJOR USES OF ASBESTOS

① CONSTRUCTION INDUSTRY



Uses about 2/3 of all
asbestos produced for
cement production,
roofing, plastics,
insulation,
floor tiling.

② AUTOMOTIVE INDUSTRY



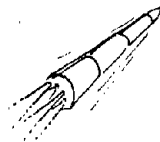
Widely used as
friction material
in brake and clutch
linings ... also as
undercoating to
protect against
corrosion.

③ TEXTILE INDUSTRY



Fireproof clothing
and safety equipment,
fire-resistant
curtains for
theatres, schools.

④ OTHER USES



Asbestos is used to
strengthen metals
exposed to heat ..
e.g., in the nose cones
of space vehicles.

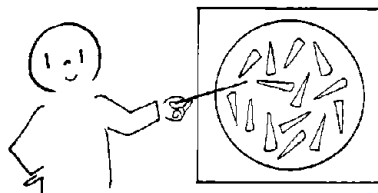
Asbestos is very
useful **BUT...**

Exposure to
asbestos DUST presents
HEALTH HAZARDS





If air containing asbestos dust is inhaled, the small, sharp fibers may work their way into the lung tissue and remain imbedded for life... a constant source of irritation.



Asbestos bodies
(fibers covered with protein)
as they appear in the lungs

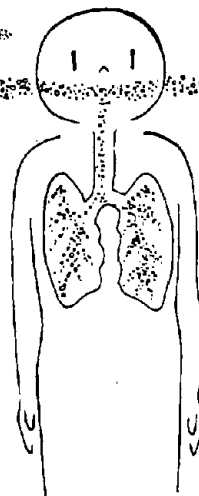
The danger **VARIES** depending upon...

1 INTENSITY OF ASBESTOS DUST

(number of asbestos fibers in the air within a given space)

3 FIBER SIZE and variety

Very fine, short fibers are most highly cancer-causing.



2 INDIVIDUAL SUSCEPTIBILITY

Some people are more likely to develop asbestos-related diseases than others.

4 PRESENCE OF OTHER POLLUTANTS

-- such as cigarette smoke can increase the risk of disease.

Asbestos-related diseases

DEVELOP OVER A LONG PERIOD OF TIME

Symptoms may first appear 30 years after exposure!

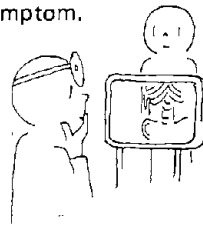
① ASBESTOSIS

A lung disease that begins with irritation of the lungs by inhaled asbestos dust, causes scarring and thickening of the lung wall. Breathing becomes difficult, thus causing a strain on the heart. Usually appears 10 - 20 years after exposure.

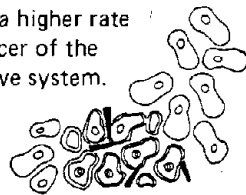


② MESOTHELIOMA

A cancer of the chest or abdominal lining, which is rare except in people exposed to asbestos. Usually fatal within one year of the first symptom.

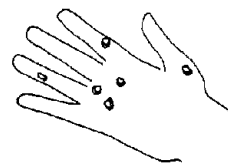


③ **CANCER** of respiratory system is eight times as common in asbestos workers as in the general public.
-- also a higher rate of cancer of the digestive system.



④ **ASBESTOS CORNS** or warts result from chronic irritation caused when asbestos fibers penetrate the skin -- usually the hands.

Not believed to lead to skin cancer.



All the hazards of asbestos are not yet fully understood...much research is needed.

IN THE MEANTIME-- it's vital to be aware of WHERE the danger lies.

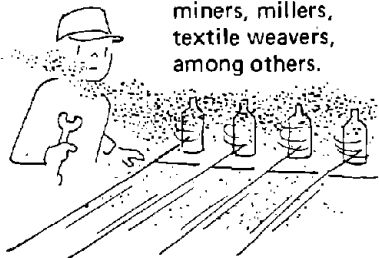




If you work with or around asbestos -- it is!

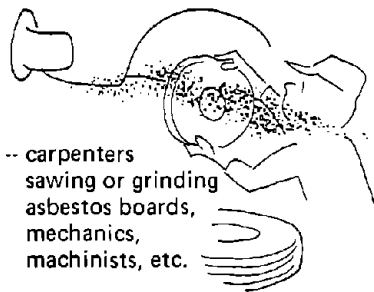
PRODUCTION WORKERS

-- insulation workers,
miners, millers,
textile weavers,
among others.



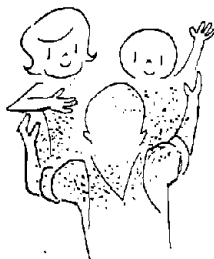
MAINTENANCE WORKERS

-- carpenters
sawing or grinding
asbestos boards,
mechanics,
machinists, etc.



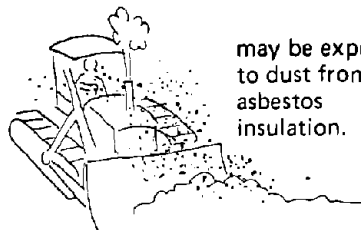
FAMILY AND FRIENDS of asbestos workers

may be
exposed to
dust carried
home on work
clothing.

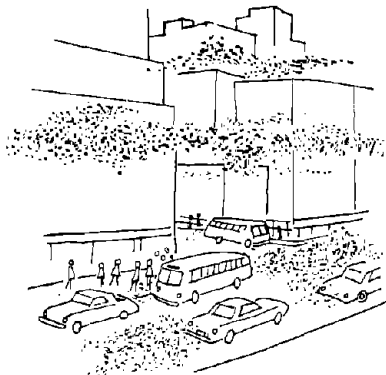


DEMOLITION WORKERS

may be exposed
to dust from
asbestos
insulation.



However...
the hazard doesn't stop there--
"ASBESTOS POLLUTION"
AFFECTS EVERYONE!



A significant asbestos dust level has been found in the air in large cities and suburbs.

Dust originates from asbestos industry, construction sites, the wear of brake linings, clutch plates, mufflers.

AND... IF YOU SMOKE...

Asbestos workers who smoke have almost 90 times greater risk of cancer as the non-smoking general public.



There is
NO KNOWN TREATMENT
for asbestos-related diseases

But if problems are diagnosed early, exposure levels can be reduced and complications treated.



Sooo...
especially if you work with
or around asbestos,
**HAVE REGULAR
CHECK-UPS!**

Science, industry, labor and government are working together to control the dangers of asbestos.

Dust level and exposure can be minimized...



HERE'S HOW..

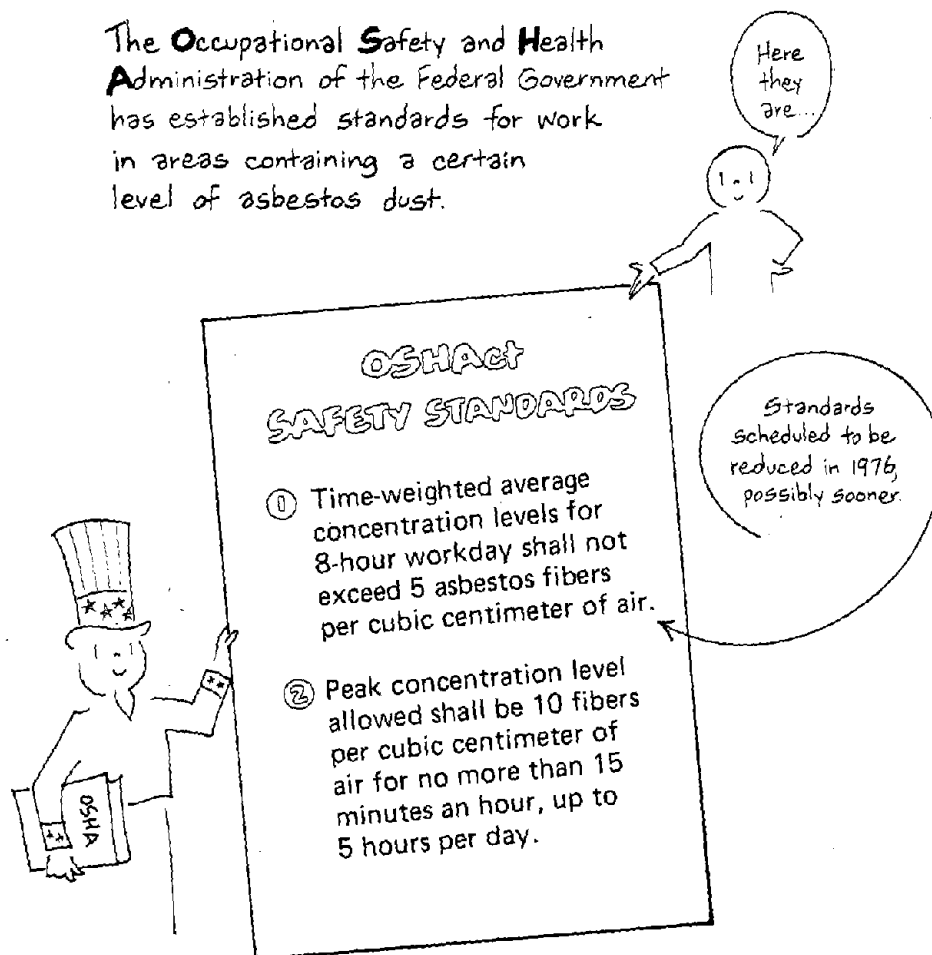
How EXPOSURE can be reduced

Steps we can take for protection

First...

KNOW the OSHA SAFETY STANDARDS

The **O**ccupational **S**afety and **H**ealth **A**dministration of the Federal Government has established standards for work in areas containing a certain level of asbestos dust.



can be **CONTROLLED**

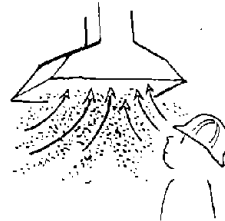
tion against asbestos dust

Then...

WORK TO MEET THESE STANDARDS
via...

① NEW ENGINEERING METHODS

... to prevent the escape and spread of floating dust. Dust-producing operations can be isolated. Tools can be fitted with exhaust ventilation and dust control systems.



② BETTER WORK PRACTICES

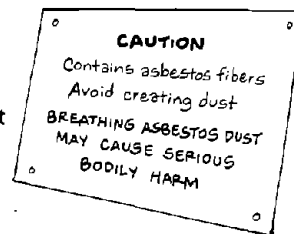
Asbestos can be wet down before handling to prevent airborne fibers.

Asbestos waste and debris can be sealed in impermeable bags and containers.



③ CAUTION SIGNS AND LABELING

All products containing asbestos fibers not permanently bonded or contained must be labelled visually and legibly, i.e.,



MORE...

Meeting the Safety Standards (cont'd)

④ PERSONAL SAFETY EQUIPMENT

When handling asbestos and materials or equipment containing asbestos, PERSONAL PROTECTIVE EQUIPMENT could be the only way to protect you.

SPECIAL CLOTHING... either fabric or resin-coated paper. Includes full suits, coveralls, head covering, gloves, foot covering.

RESPIRATORS (3 basic types)

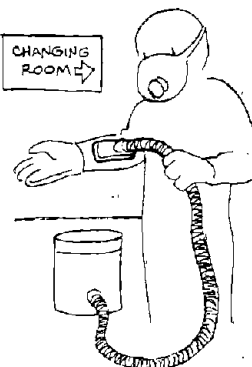
- A. FILTER-TYPE AIR PURIFYING RESPIRATORS
For use when dust level may exceed recommended peak.
- B. POWERED AIR-PURIFYING RESPIRATORS
Used when average contamination is between 10 - 100 times peak level.
- C. TYPE "C" SUPPLIED-AIR RESPIRATORS
Used when concentration may be more than 100 times recommended levels.



⑤ ON-THE-JOB "HOUSEKEEPING"

Clean-up is important at the end of work periods (breaks, lunch, workday). You will be covered with tiny asbestos fibers. Do not shake or blow dust off.

Vacuum your garments before removal and place them in a designated container. Use special changing rooms to change clothes.



⑥ MEDICAL SURVEILLANCE

Proper medical surveillance can show whether employees are receiving adequate protection from the dangers of asbestos.

Surveillance includes...

PHYSICAL EXAM and TESTING

... on a regular basis. Annual check-ups for everyone; more frequent attention recommended for those with heart and lung trouble or those who are exposed to levels in excess of 2 fibers per cc.



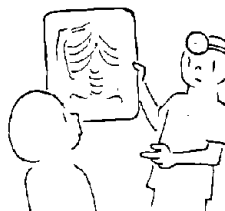
MEDICAL HISTORY RECORDS

Medical history of each employee working with asbestos should be carefully kept. Includes history of exposure to asbestos and other contaminants.



MEDICAL ADVICE

Employees should be informed when dangerous signs appear on tests, or when any job-related problems threaten health.



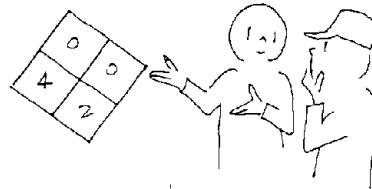
POSITIVE FINDINGS of medical surveillance can result in new job placement, shift rotation, improved work practices, other measures.



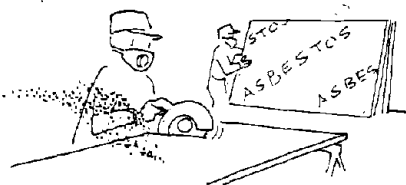
SAFETY ON THE JOB IS



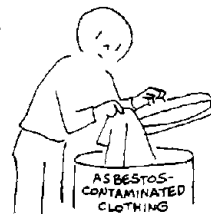
- ① **KNOW** the hazards of your job. Is your exposure direct or indirect? High or low levels? Are there recommended controls?



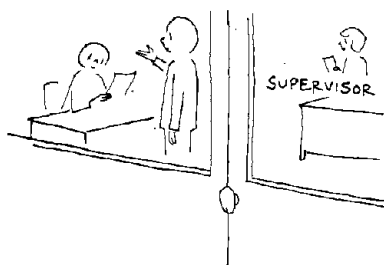
- ② **WEAR** and maintain your Personal Protection Equipment.



- ③ **PRACTICE** good on-the-job housekeeping. Use vacuums and dust-collecting equipment.

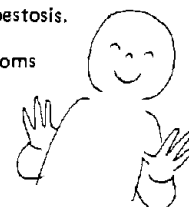


- ④ **REPORT** hazardous conditions -- i.e., unusually high dust levels, need for equipment -- to supervisor.



- ⑤ **CONSIDER** your health at all times. Don't work with asbestos if you have lung disease, or any symptoms of asbestosis.

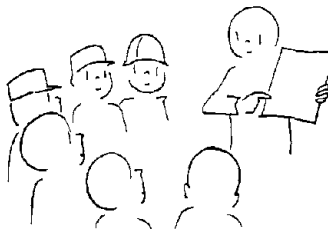
Know the symptoms of cancer and asbestosis.
DON'T SMOKE.



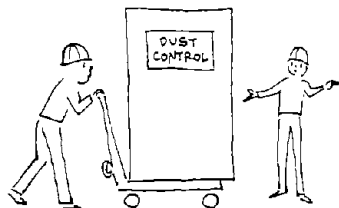
EVERYBODY'S BUSINESS



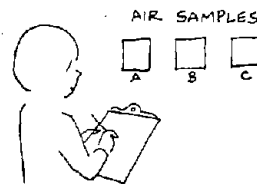
- ① **ADVISE** employees of the dangers of exposure and the necessity of caution and awareness.



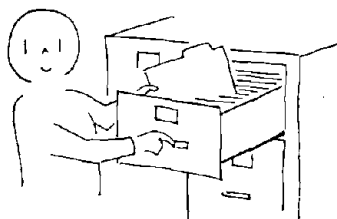
- ② **SUPPLY** modern engineering equipment to provide the healthiest possible working environment.



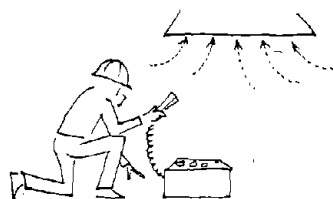
- ③ **MONITOR** asbestos dust levels. A sampling of air in work areas should be taken every 6 months.

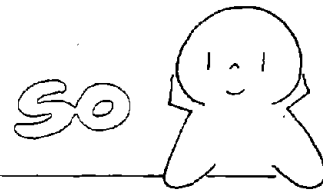


- ④ **KEEP** medical records of each worker exposed to asbestos dust. Also provide regular physical check-ups.



- ⑤ **TAKE** all other necessary precautions to prevent unexpected exposure. Provide for routine testing of ventilation controls.





So...

**WE CAN
REDUCE THE HAZARDS
OF ASBESTOS**

if everyone does his part...

GOVERNMENT'S JOB

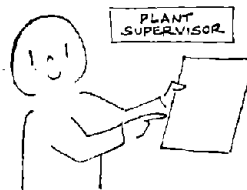


SET SAFETY STANDARDS
for proper work conditions.

ENFORCE the standards via
periodic inspection.

UPDATE STANDARDS
... as necessary

MANAGEMENT'S JOB



RESEARCH new ways to control
asbestos.

PROVIDE safety-equipped work
space and facilities.

INSTRUCT employees about
dangers, methods of protection.

WHAT ?

YOUR JOB IS
TO KNOW HOW TO PROTECT
YOURSELF ON THE JOB!

Learn...

- ✓ What asbestos-containing materials are in use at your workplace.
- ✓ How these materials can be worked.
- ✓ How to maintain control equipment.
- ✓ What other precautions you should take to be safe.

After all...

IT'S YOUR HEALTH & SAFETY
and nothing is more
IMPORTANT!



Prepared in cooperation with the

National Institute for Occupational Safety and Health

Public Health Service, U.S. DHEW

Cincinnati, Ohio 45202