Archdiocese of Seattle

New Employee Orientation

Maintenance, Janitorial and Custodial

Ver. 2-2018

Topics to Cover

- State and Federal Regulations
- Safety and Accident Prevention Program
- Appendix 11 – Hazardous Materials – Class 4 Asbestos Worker Training
- Hazard Communication – SDS and Labeling
- Lockout and Tag out

Your Role in Site Safety

- Importance of your work.
- Eyes and ears on a local level.
- Front line for communications
- Continuing Education

State Regulations
RCW and WAC

- RCW (Revised Code of Washington)

- WAC (Washington Administrative Code)

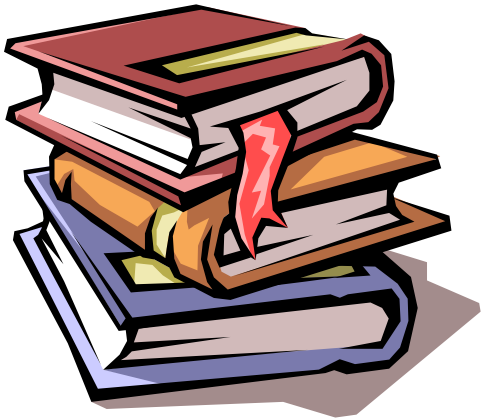
  DEPARTMENT OF LABOR AND INDUSTRIES

  DOSH and WISHA

DOSH and WISHA Regulations

DOSH = Department of Safety and Health

WISHA = Washington State Health and Safety Act



Part of Department of Labor and Industries

FEDERAL REGULATIONS
EPA AND OSHA

- EPA – Environmental Protection Agency
- OSHA – Occupational Safety and Health Administration

In the State of Washington, Compliance with WAC and WISHA rules satisfies OSHA Compliance.

Safety and Accident Prevention Program (Red Binder)

- The program is divided into two sections.
  - First Section - Safety and Accident Prevention Program for employee safety
  - The second section are the Appendix. These are specific to site work place safety, not all sections will appear in your manual

Safety and Health Training

- All Employees
  - Basic orientation
  - Blood-Borne Pathogen
  - Chemical Hazards
  - Ergonomics
  - Fire Extinguisher Safety
  - Lockout Training

Safety and Health Training for Specific Tasks

Employees assigned a specific task or duty

- Asbestos
- Chemical Hazards
- Emergency Washing
- Fall Protection
- First-Aid
- Ladder Safety
- Lifting
- Lockout Training (Advanced)
- Machine Operation
- Welding
- Powered Industrial Trucks – Forklifts and Personal Lifts

Appendix A
Safety Station
First Aid Other Requirements

- First Aid Kits
- First Aid Training
- SDS (Safety Data Sheets) Inventory

Appendix B
Hazard Assessment and
Personal Protective Equipment (PPE)

- Responsibilities of Safety Program Manager, Supervisors and Employees
- Hazard Assessment and PPE selection
- Employee Training
- Cleaning and Maintenance of PPE

Appendix E
Working with Volunteers

Volunteer Labor

- Volunteer worker agreement for facilities and construction projects
- E-5 Volunteer Driver Form

Appendix F - Blood Borne Pathogens Exposure Control Plan

- Exposure Control Plan
- New Employee - Training
- Annual Fall Safety Training Refresher
- Hepatitis B Vaccination
- PPE

Appendix 1 - Control of Hazardous Energy (Lockout- Tagout)

Control of Hazardous Energy

- Scope
- Energy Control Program
- Energy Control Procedures
- Employee Training
- Re-training Periodic Reviews

Appendix 4 - 5
Construction and Portable Ladders

- Overview
- Hazards with ladders and stairs
- Reducing risks from falls and/or failure
  - Choose correct ladder
  - ANSI Duty Rating
  - Inspecting for each use
  - Transporting
  - Using Appropriately

Appendix 11
Hazardous Materials

- Asbestos, Lead, Mercury, PCB and Radon
- Lead
  - Lead Based Paints
- Mercury
  - Thermostats and Thermometers
- PCB
  - Lighting Ballasts
- Radon
  - Partial or full basements

Appendix 11
Asbestos - Hazardous Materials

- Archdiocesan Information Packet Purpose and Objectives
- Asbestos Operations & Maintenance Handbook
- Training – Class IV Worker

Archdiocese of Seattle

ASBESTOS – CLASS 4 WORKER TRAINING

Topics to Cover

- Properties of asbestos
- Uses of asbestos
- Health hazards of asbestos
- Activities resulting in potential asbestos exposure – ACBM Locations on Site
- Asbestos regulations
- Where to get more information

Asbestos Exposure - General Overview

1.3 million workers are exposed in the U.S. – primarily in the construction industry.

Asbestos removal and building renovation & demolition have the greatest exposures.

Exposure in general industry:

- **manufacture of asbestos products**
- **automotive brake and clutch repair**
- **housekeeping and custodial work**

Properties of Asbestos

Asbestos ore

Asbestos fibers

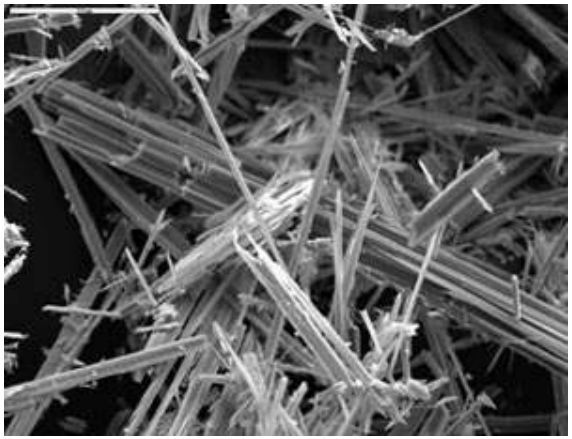
- Naturally occurring fibrous minerals
- Good tensile strength
- Flexible
- Heat resistant
- Electrical resistance
- Good insulation
- Chemical resistant

Because of these unique properties, asbestos was used extensively in variety of products.

Types of Asbestos

Most commonly used:

- Chrysotile - “White asbestos”
- Amosite - “Brown asbestos”
- Crocidolite - “Blue asbestos”



Asbestos fibers, high magnification

Others:

“Blue Asbestos”- Tremolite (sometimes found in vermiculite)

Actinolite

Anthophyllite

Vermiculite – some products contained asbestos

Vermiculite insulation in attics

Uses of Asbestos

Asbestos insulated pipe

Asbestos insulated boiler

Asbestos has been used for centuries, but greatly increased during and after World War II in ship insulation and the following:

- Pipe insulation
- Surfacing insulating materials
- Reinforcement of materials
- Fireproofing
- Acoustic and decorative plaster
- Textiles

Use has greatly declined since the late 1970's

Examples of Uses of Asbestos

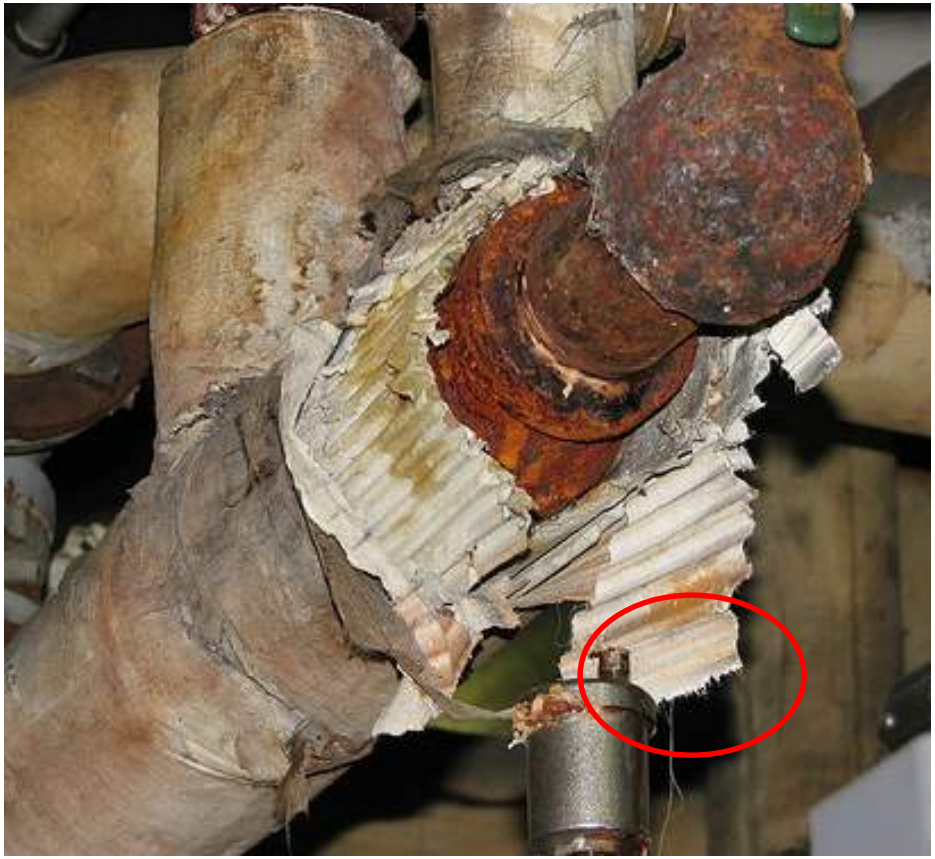
Sprayed-on fireproofing material

Sheet vinyl containing asbestos

Vinyl asbestos flooring

These products may be found in homes and buildings constructed before 1981.

Damaged asbestos pipe insulation



This damaged pipe insulation is a health hazard to persons working around it, handling it or removing it. Asbestos fibers are visible on the torn edges.

Asbestos Mill Board

Asbestos millboard was used in the construction of walls and ceilings, especially around furnaces and wood-burning stoves, where insulation and fire protection was required. Most varieties of asbestos millboard typically contained between 80% and 85% asbestos.

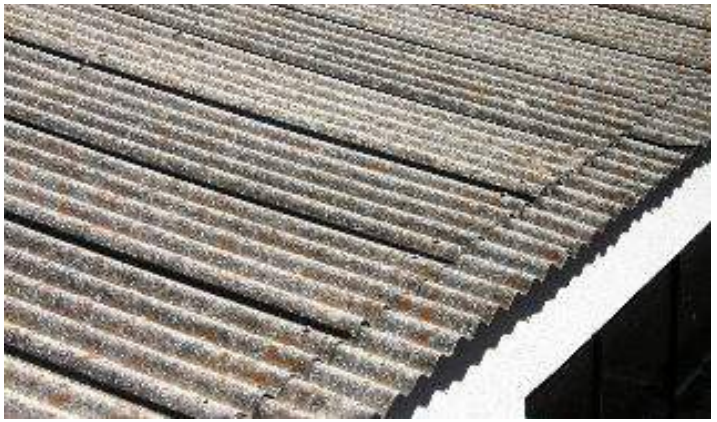
Asbestos in gaskets and fabric

Asbestos gaskets– may be round, flat or impregnated with waterproof sealant

Asbestos fabric in HVAC system

Damaged asbestos gasket

Asbestos Roofing Material – used from 1920's to 1970's



ASBESTOS CEMENT
ROOF SHINGLES AND
FELT (TAR PAPER)

Asbestos Ceiling Tile - used until about 1980

Tile close-up

Usually white and in 1' by 1' or 2' by 4' sizes

Asbestos shingles and siding

Removal done correctly

Found in older houses – not to be confused with newer asbestos-free cement siding. There is little hazard unless disturbed. The top right hand picture shows a siding replacement job with broken green asbestos shingles which would have released dust and fibers into the air if done incorrectly.

Asbestos “Popcorn” Ceiling Material

Popcorn ceilings (also known as acoustic ceilings) were popular in many homes built from the late 1950s through the early 80s.

damaged ceiling material

Uncontrolled popcorn ceiling removal job

Not all popcorn ceiling material contained asbestos, but some did. Many types were more easily dislodged than others.

Asbestos in joint compound and plaster

Some joint compound contained up to 5% asbestos

Joint compound

Plaster with asbestos

Some Asbestos-Containing Materials*

- Cement Pipes
- Cement Wallboard
- Cement Siding
- Asphalt Floor Tile
- Vinyl Floor Tile
- Vinyl Sheet Flooring
- Flooring Backing
- Construction Mastics (floor tile, carpet, ceiling tile, etc.)
- Acoustical Plaster
- Decorative Plaster
- Textured Paints/Coatings
- Ceiling Tiles and Lay-in Panels
- Spray-Applied Insulation
- Blown-in Insulation
- Fireproofing Materials
- Taping Compounds (thermal)
- Packing Materials (for wall/floor penetrations)
- High Temperature Gaskets
- Laboratory Hoods/Table Tops
- Laboratory Gloves
- Fire Blankets
- Fire Curtains

(This list does not include every product/material that may contain asbestos. It is intended as a general guide to show which types of materials may contain asbestos.)

* Source: EPA

Some Asbestos-Containing Materials

(Continued)

- Elevator Equipment Panels
- Elevator Brake Shoes
- HVAC Duct Insulation
- Boiler Insulation
- Breaching Insulation
- Ductwork Flexible Fabric Connections
- Cooling Towers
- Pipe Insulation (corrugated air-cell, block, etc.)
- Heating and Electrical Ducts
- Electrical Panel Partitions
- Electrical Cloth
- Electric Wiring Insulation
- Chalkboards
- Roofing Shingles
- Roofing Felt
- Base Flashing
- Thermal Paper Products
- Fire Doors
- Caulking/Putties
- Adhesives
- Wallboard
- Joint Compounds
- Vinyl Wall Coverings
- Spackling Compounds

Some Terms: “ACM” and “PACM”

Asbestos Containing Material

Any material containing more than 1% asbestos by weight.

Presumed Asbestos Containing Material

Installed prior to 1981

- Surfacing materials
- Thermal System Insulation
- Flooring

Must be handled as ACM unless proved otherwise

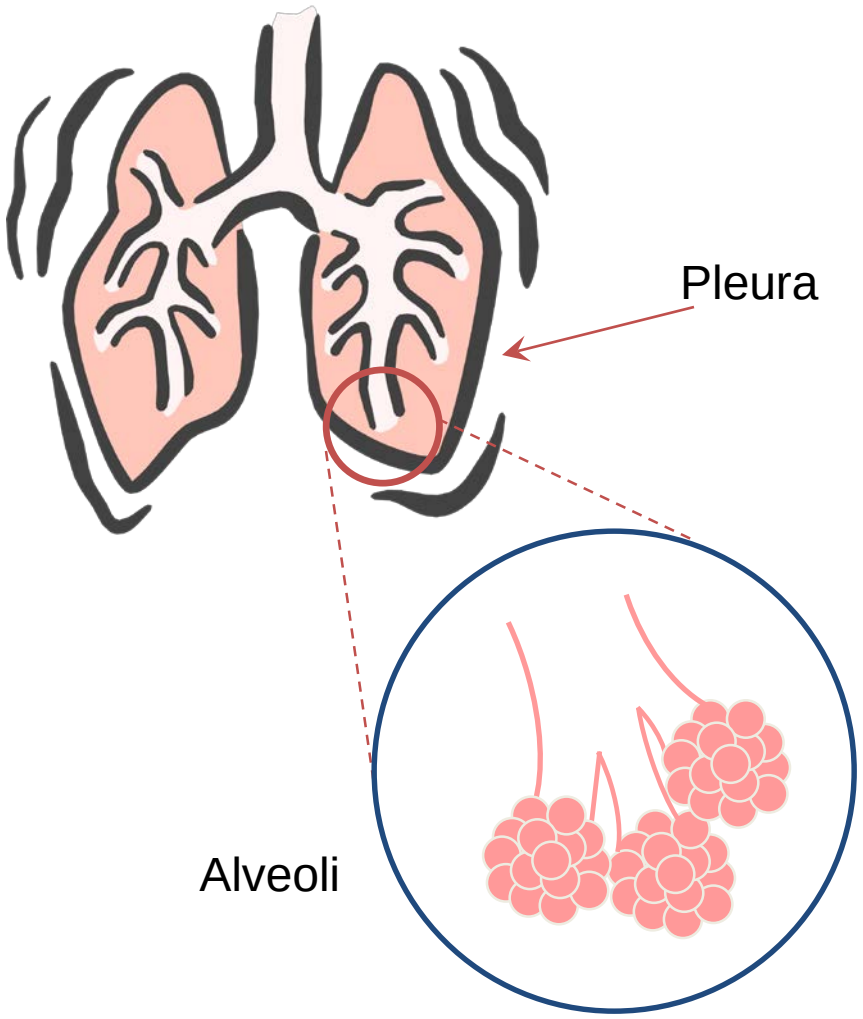
Many uses of asbestos have been banned under EPA and Consumer Product Safety Commission regulations. However, some materials where asbestos fibers are generally well bound in the materials were not banned.

Previously installed products still pose a hazard to workers. Asbestos fibers can be released during repair work, demolition, and renovation of older buildings and structures containing ACM.

Asbestos is an Inhalation Hazard

Airborne asbestos fibers inhaled deep into the lung can cause damage.

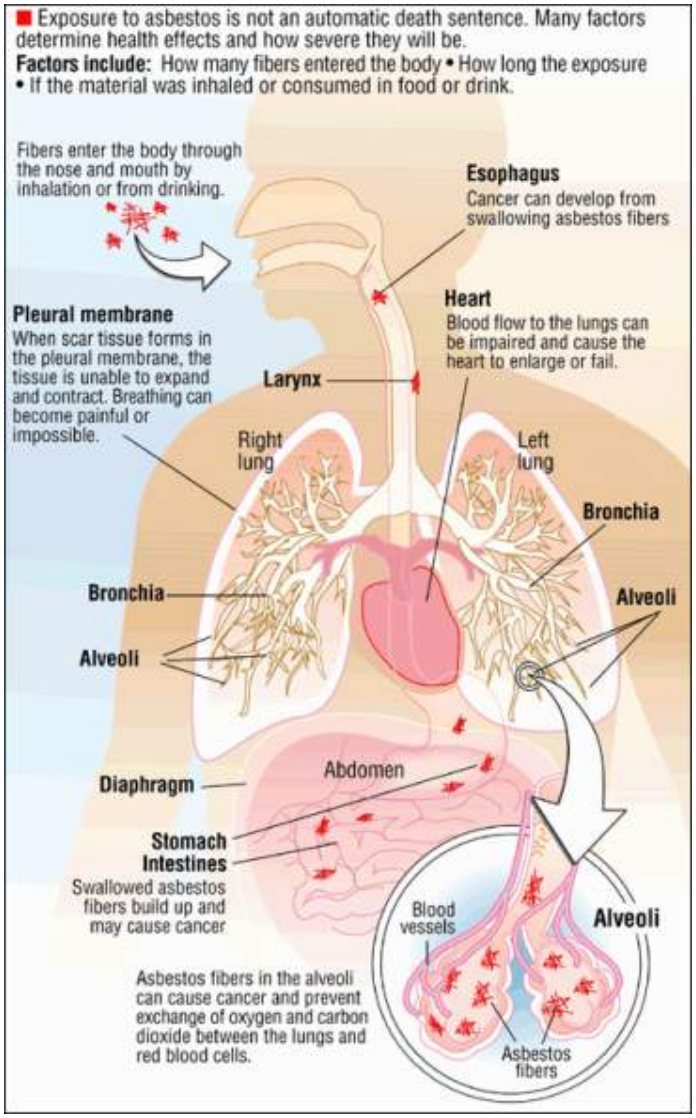
- Tiny breathable asbestos fibers are deposited in the alveoli, the ending small air sacs in the lungs.
- The body's defense mechanisms cannot break down the fibers.
- Asbestos fibers cause damage to the lungs.
- The fibers may also travel to the pleura, the membrane lining the outside of the lungs.



Asbestos-related Diseases

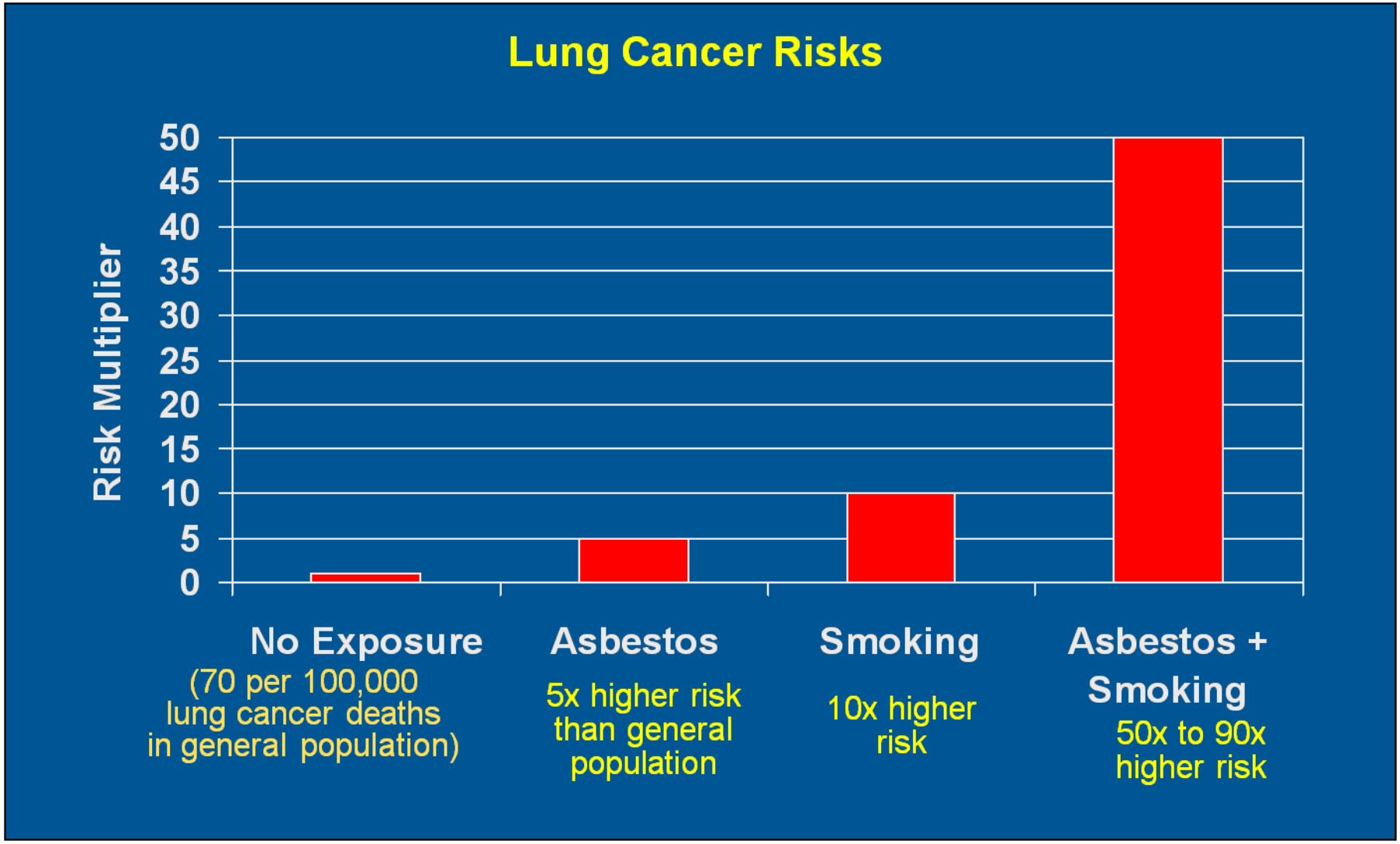
- Asbestosis
- Mesothelioma
- Lung Cancer
- Other cancers

- Usually symptoms take 15 to 30 years or more to develop.
- Health effects from asbestos exposure may continue to progress even after exposure is stopped.



Lung Cancer

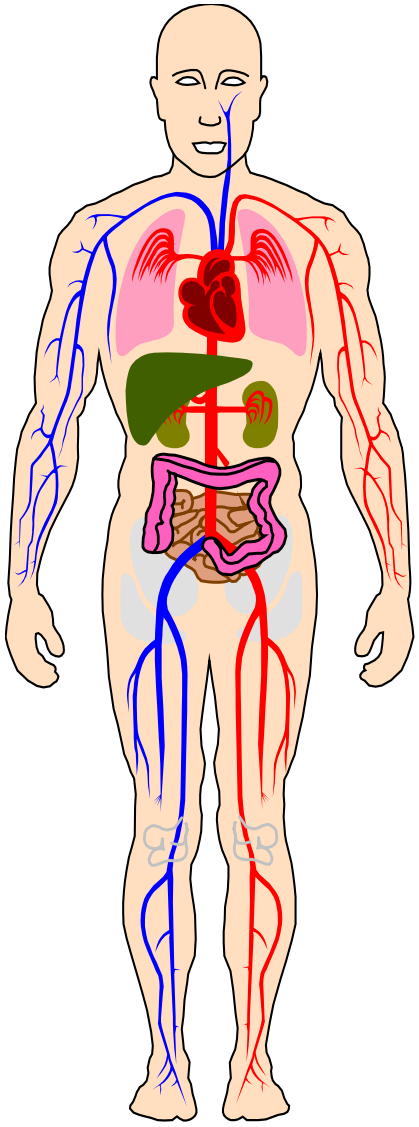
Lung cancer causes the largest number of deaths from asbestos exposure. The risk greatly increases in workers who smoke.



Other Cancers

Evidence suggests that ingesting asbestos can also cause cancers in the:

- esophagus
- larynx
- oral cavity
- stomach
- colon
- kidney



Fibers can enter the mouth and be swallowed. Poor hygiene, leaving food/drinks out in contaminated areas, and carelessness can result in the ingestion of asbestos.

Asbestos-related diseases

The potential for asbestos related disease depends on:

- Amount of fibers inhaled
- Length of exposure
- Whether exposed worker smokes
- Age – because of delayed effects

Don’t smoke! An asbestos worker is at much greater risk of developing lung cancer if he/she smokes.

How do asbestos fibers get in the air?

Physical disturbance of asbestos-containing materials can suspend fibers in the air.

Asbestos is most hazardous when it is “FRIABLE”.

- Friable: can be easily crumbled or crushed by hand, releasing fibers into the air
- Very small fibers stay in the air for long periods
- Damaged or deteriorated ACM increases friability

Photo of friable asbestos

Non-friable ACM (floor and ceiling tiles, house siding, fire doors, etc.) won’t release fibers unless disturbed or damaged in some way.

Evaluating Asbestos Hazards

<u>Type of Material</u>

- What is the asbestos content (greater than 1%)?
- Is it friable or non-friable?
- What is the location – is it isolated or accessible to workers?

Evaluating Asbestos Hazards

Condition of Material

- Is it intact with no damage?
- Is it in poor condition – damaged, disturbed or no longer intact?

Evaluating Asbestos Hazards

Activity

- Are employees working in the area where asbestos is found?
- Will the material be cut, sawed, grinded, sanded drilled, broken, removed, replaced or otherwise disturbed?

General asbestos safety and health requirements

If workers will be exposed to asbestos on the job, employers must take measures to minimize their exposure by:

- doing exposure evaluation, air monitoring and record keeping
- providing training on the hazard of asbestos
- providing a medical surveillance program and keeping exposure records
- developing an Exposure Control Program

Class IV Worker Training

- Information about
  - Various uses and forms
  - Health effects associated with exposure
  - Locations of ACBM
  - Recognizing the 3 d's - damage, deterioration, and delamination
  - Name & telephone # of who to contact

40 CFR 763.92(a)(2)

WAC 296- 62-07722

Class IV Worker Training

- **How Often?**
  - MUST BE DONE ANNUALLY! Archdiocese Annual Fall Safety Training.
  - Prior to or at the time of initial assignment, unless the employee has received equivalent training within the previous twelve months, and at least annually thereafter.
  - WAC 296-62-07722

Class I, II and III Work

- You are not doing
- The following describes what an asbestos abatement contractor must do
- You are being told this so you know what to see to confirm it is being done right

Asbestos Limits in the Air

Air monitoring equipment on a worker

Asbestos Permissible Exposure Limits (PEL)

- 0.1 fibers per cubic centimeter of air (0.1 f/cc) 8-hour time weighted average
- 1.0 f/cc 30-minute short-term exposure limit

Asbestos in the air at these levels would be invisible to the naked eye.

Exposure Evaluation & Monitoring

- You must conduct periodic air monitoring of workers when:
  - levels in the air are likely to be at or above the PEL
  - conducting an "asbestos project"*
  - There are change in process, controls, work practices or workers
- Notify affected employees of results of air monitoring results.
- Maintain exposure monitoring records for duration of employment + 30 years.

* "asbestos project" *means work on any building, ship, or other facility that releases or is likely to release asbestos fibers into the air.*

Exposure Control

Asbestos exposure must be controlled by one or more of the following engineering and work practices:

- Local exhaust ventilation with HEPA filter system
- HEPA-filtered vacuums
- Enclosure or isolation
- Wet methods of handling
- Prompt disposal
- Regular housekeeping

HEPA filter = high efficiency particulate air filter

More Exposure Control Requirements

(depending on the type of asbestos abatement work done)

Decontamination shower

Worker training

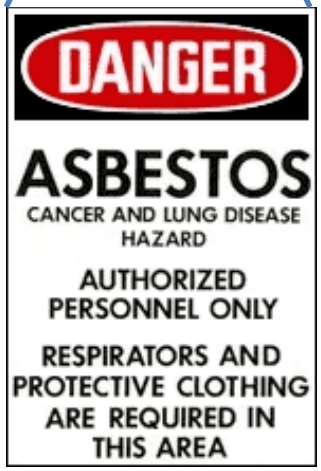
- Provide initially and annually
- Cover hazards, work practices, & safety procedures
- Program elements of Rule

Worker protection

- PPE: respirator, gloves, head and foot protection, coveralls
- Hygiene facilities: decontamination, change room

Communication of Hazards

- Warning Signs
  - for regulated areas
  - visible before entering
- Warning Labels
  - attached to all products and their containers



Entrance to regulated area

Building/Facility Owner Responsibilities

- Determine presence, location, and quantity of asbestos containing material.
- Inform employers, employees, and others who may be impacted.
- Have a “Good Faith” inspection done before starting any bidding or construction/maintenance work.
- Permit only certified individuals to perform work that may release asbestos fibers into the air.
- Submit “Notice of Asbestos Abatement Project” to L & I when project involves 48 sq. ft. or 10 linear feet of pipe.

"Good Faith" Inspection/Survey

- Required for all construction and maintenance in buildings that may contain asbestos:
  - Must be done by an EPA-accredited AHERA building inspector
  - documented written report
  - not required if assumed and treated as asbestos

* Possible fines of $250/day if not done or poorly done
* Both building owner and contractor can be cited!

Construction/Maintenance Activities

To avoid a situation illustrated in the photo below, the regulations cover any construction or maintenance activity releasing or likely to release asbestos fibers into the air including:

renovation
remodeling

demolition
asbestos removal and disposal

Loose asbestos debris from demolition project

Covers work done in:

- buildings
- structures
- mechanical piping equipment and systems
- ships
- other facilities

Construction/Maintenance Activities

Asbestos training certification of workers is required when asbestos levels in the air are above the PELs

Required for removal or encapsulation of any materials containing 1% asbestos or more.

Covers contractors, supervisors, workers depending on type/size of work.

Additional training may be required depending on type/size of work.

Asbestos abatement area contained and enclosed

Custodial/Light maintenance work

Housekeeping and building maintenance activities may expose workers to asbestos fibers if ACM/PACM is disturbed.

Activities of concern:

- sweeping
- vacuuming
- cleaning
- changing lights

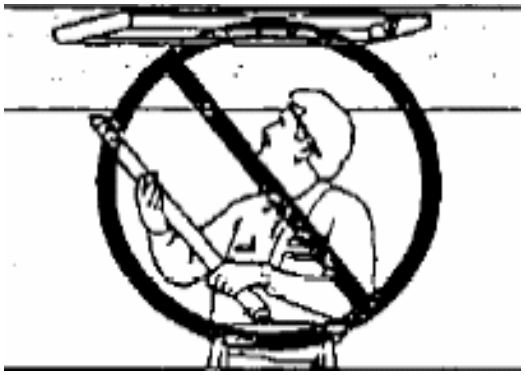
Damaged asbestos pipe insulation

Asbestos debris on floor

Materials of concern:

- vinyl asbestos tile
- popcorn ceiling
- exposed piping
- exposed fireproofing

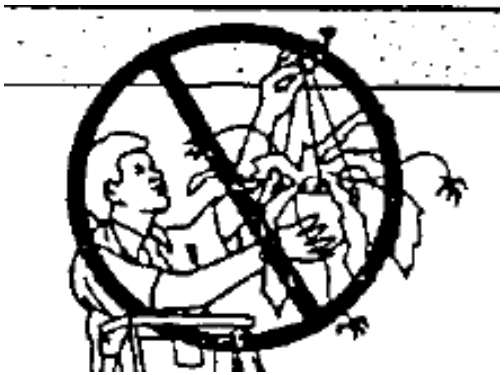
Custodial/Light maintenance work



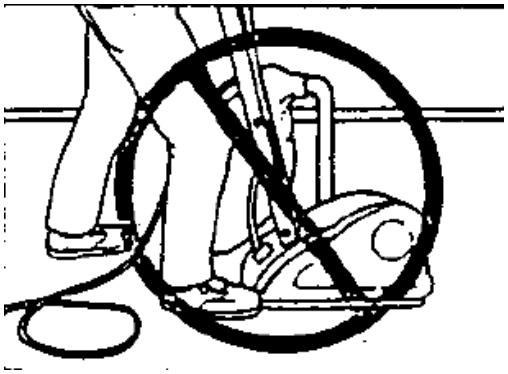
Disturb ACM when replacing light bulbs, etc.

Dry dust or sweep surfaces, ceilings, walls, or floors

DO NOT:

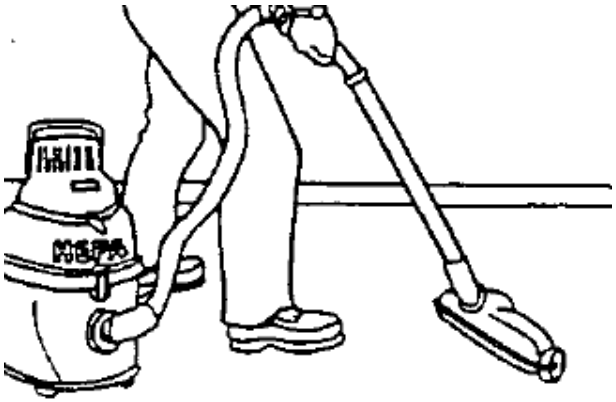


Pin or hang pictures, plants, or objects on walls or from ceilings covered with asbestos materials



Sand asbestos floor tiles or backing material

Custodial/Light maintenance work



Use only a HEPA-filtered vacuum to clean up asbestos debris

DO:

Dust with a damp cloth

Wet mop floors

Specific requirements for other work

Automotive brake and clutch inspection, disassembly, repair, and assembly operations

Roofing, flooring, siding and gaskets

Custodial/Light maintenance

Employees who perform housekeeping activities during and after construction activities must follow asbestos construction work requirements

Environmental Regulations (EPA)

- **AHERA** (Asbestos Hazard Emergency Response Act)

- **NESHAPS** (National Emission Standards for Hazardous Air Pollutants)

State environmental agencies:

- Washington State Department of Ecology
- Local Air Pollution Authorities (SCAPCA)
- Washington State Department of Health, County Health Departments

Asbestos Review

- Properties of asbestos
- Uses of asbestos
- Health hazards of asbestos
- Activities resulting in potential asbestos exposure
- Asbestos regulations
- Where to get more information and help

Who to Contact?

- Archdiocese Office of Property and Construction Services:
- Ed Foster – Director
- Robin Marshall – Training Coordinator
- 206-382-4851