ASBESTOS AWARENESS

A basic awareness training course for Firefighters

Serving North Spokane County
Objectives

• Firefighters shall be able to identify in which form asbestos is most hazardous to their health
• Firefighters shall be able to identify diseases associated with long and short term exposure to asbestos fibers
• Firefighters shall be able to identify the government cut-off date for the use of materials containing asbestos
Objectives

• Firefighters shall be able to identify three construction materials commonly containing asbestos prior to the ban.
• Firefighters shall be able to identify two ways to reduce exposure to asbestos hazards
• Firefighters shall be able to list the important steps in post exposure decon
Objectives

• Firefighters shall be able to identify their obligation regarding asbestos containing debris
Asbestos Identification

• What is asbestos?

• According to federal and state regulations, the term asbestos “fiber” refers to particles that are:
  – Three times longer than they are wide
  – 5 microns in length
How small is Asbestos?

- Human hair - 75 m
- Fiberglass fiber - 5 m
- Asbestos fiber - .5 m
Physical Characteristics of Asbestos

- Fibers are very light
- Poor conductor of heat and electricity
- Fire resistant
- Flexible, strong, and long lasting
- Highly resistant to chemicals
Recognizing and Identifying Asbestos-Containing Materials
Categories of suspect materials

- Plasters and Fireproofing materials
- Mechanical system insulation's
- Ceiling tiles/panels
- Cementitious products
- Miscellaneous materials
Construction Era Distribution

- Commercial manufacturing began in the late 1880’s
- 1880’s to the 1920-2, asbestos primarily used in a woven material and wrapped around pipes to form insulation blanket.
- Most asbestos in building prior to 1930 is found on mechanical systems
Construction Era Distribution

- 1930’s through 1940’s, asbestos used in troweled plasters, muds, grouts, and patching compounds in addition to use in mechanical insulation.

- Beginning in 1940’s and continuing through the early 1970’s, asbestos used as a reinforcement material in spray applied plasters and fireproofings.
Buildings built after **1979** are not considered suspect of containing asbestos materials. May have been used illegally however.
Geographic Location

- More actual tonnage of asbestos used in colder climates than in warmer.
- More asbestos used in the industrial northeast than in other areas.
- Generally, more asbestos used in the east than in the west due to building age and by laws of product distribution.
Spray-Applied Plasters/Fireproofing Materials

• Composed of various minerals and asbestos fibers mixed with glue, water or silicone, and sprayed onto bulkheads, concrete ceilings, scratch coats, brown coats, and walls.
Mechanical Insulation

- Pipe covering types
  - Fiberglass
  - Preformed magnesium or calcium silicate and asbestos
  - Corrugated “Air Cell” 1920-1954 10%-90%
  - Slick brown paper with asbestos layer
  - Misc: Rubber, foam, etc.
Muddled
Joints/Tees/Valves

- Cementitious type with canvas wrap
- Loose-fluff type with canvas wrap
- Miscellaneous: Fiberglass under PVC, Caps or rubber
Ceiling / Wall Tiles and Panels

- Considered non-friable unless heavily water damaged or during renovation
Cementitious Asbestos containing products

- Vent & Drain pipes
- Water & Sewer pipes
- Grouts & patching materials
- Asbestos siding 1940’s-1950’s
- Vinyl Asbestos floor Tile (VAT)
Are there any ACM’s in this room?
Health Effects

• Asbestos Exposure
  – If you are in an area where asbestos is in the air and you are not protected, then you are exposed.
Asbestos Related Diseases

- Asbestosis
  - A disease that causes scars on the lungs
- Lung Cancer
- Mesothelioma
  - A cancer of the lining of the lungs or the lining of the belly
- Other Cancers
  - Cancers of the digestive system
The dose-response effect

• The more asbestos you are exposed to, the more likely you are to get an asbestos-related disease.
• All asbestos diseases except one are dose-related.
• Dose-related means the more asbestos you breathe, the more likely you are to get sick.
Latency Period

- The period/gap between the time you breath asbestos and the time you start to feel sick.
- The latency period for asbestos diseases is between ten and forty years.
Fireground Exposure

- Venting a Roof
- Insulation Exposure
- Overhaul
  - Pulling walls or ceilings
  - Plasterboard joints
  - Floor tiles
  - “Spray-on” ceiling covers
How to decrease your asbestos exposure

- Remain aware of potential hazards
- Keep asbestos wet
- Limit contact during overhaul
- Wear P.P.E.
Decontamination

- Limit contaminated area
- Wash off all involved equipment before returning to quarters, includes:
  - Bunker gear
  - Hand tools
  - Helmet/gloves
  - S.C.B.A.
Your obligations regarding asbestos debris

- If you know that the scene is likely to have an asbestos hazard, you need to notify:
  - Incident Command
  - Incident Safety Officer
  - The occupant and/or owner
  - Fire inspectors/investigators