Asbestos

What is it? Where is it? What to do when we suspect it

Asbestos
What is it?

Asbestos is a mineral that is comprised of millions of tiny fibres. They are silky and soft to the touch but are extremely strong, flexible, resistant to heat, light and chemicals.

There are two classes of fibre

Serpentine & Amphibole

In total there are 6 types of Asbestos that fall into these classes,

Chrysotile - White

Amosite - Brown

Crocidolite - Blue

Asbestos has been around

2500BC – Pharaohs discovered wrapped in asbestos cloth

1st Century BC – asbestos described in text as, "a linen has now been invented that is incombustible. I have seen napkins made of it glowing on the hearths at banquets"

C1850 – Modern Commercial asbestos use begins in Italy, where it is used to make paper (even bank notes) and cloth

1880s – Major Asbestos mines open in Canada and South Africa, and soon after in America, Italy and Russian. It is an ideal insulator for steam Engines and turbines of the industrial revolution

C1900 – Global asbestos production ruses to more than 30,000 tons annually

1918 – Statisticians with Prudential identify premature mortality among those Working with asbestos, who are subsequently refused life insurance

1924 – Nellie Kershaw dies in Rochdale. Dr William Cooke testifies that asbestos Particles in the lungs "were beyond reasonable doubt the primary cause of Death". It is the first case of its kind. Kershaw's employers, Turner Bros Asbestos, do not admit liability. No compensation is paid.

Asbestos History Directly Impacting us Today

1939-45 – World War Two sees intensive shipbuilding, one of the deadliest Occupations for asbestos exposure

19050s-1960s – Dramatic increase in production of Asbestos in Canada. Continued increase into the 1970s

1978 – As production and use began to decline after long damaging Publicity about the long-term effects of asbestos, Canada continues To produce and export the mineral

1982 – Asbestos friable products no longer available for commercial application in Canada due to international market pressures

1985 – Provincial regulatory bodies catch up to industry and enforce complete ban on friable asbestos products. This includes sprayed fireproofing, sprayed acoustic or decorative finishes and thermal insulation

Who is at Risk?

Asbestos is not limited to specific occupations or sectors. If you are cutting, drilling, sawing into panels, walls, floors and ceilings in any setting, residential, commercial or industrial.
You could be releasing non-friable asbestos fibres into the air, or dislodging friable asbestos by disturbing it from nearby.

Many Trades do not recognize that the products and or materials they are working on or around may contain friable or non-friable asbestos.

Diseases Related to the Result of an Exposure

Mesothelioma – cancer of the lining of the lung

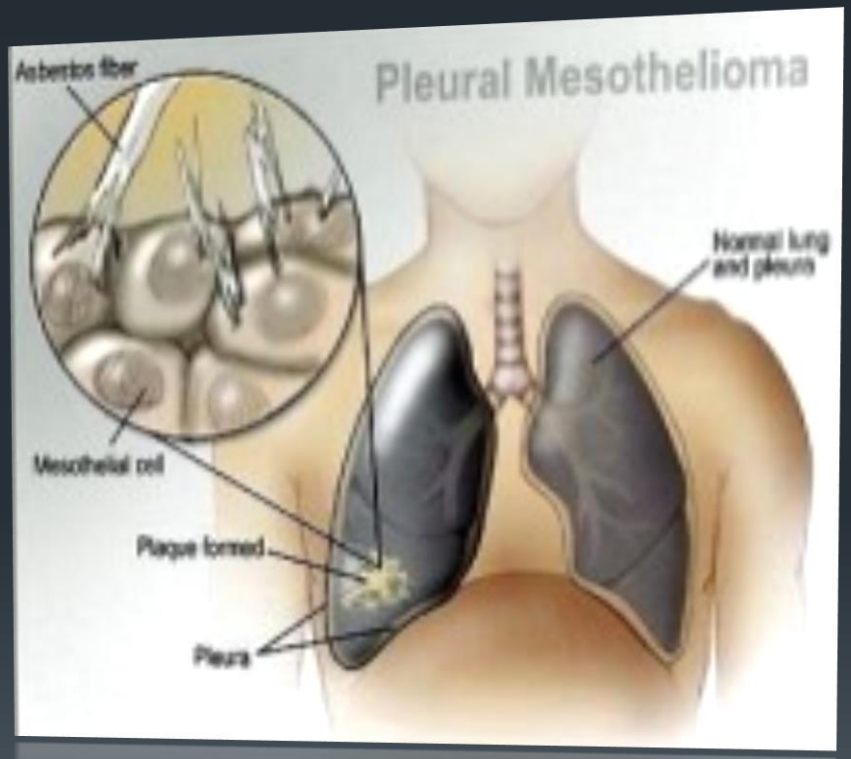
Lung Cancer

Asbestosis – Scarring of Lung Tissue

Pleural Plaques – Localized areas of thickening of the pleura)

Pleural Thickening – diffuse areas of thickening of the pleural)

Pleural effusion – excess fluid in the pleural space



International Agency of Cancer Research IARC

- In 1973, 1977 and 1987 Monographs were conducted and sufficient evidence was found in humans to classify all forms of asbestos as a Group 1 Carcinogen.
- Asbestos (all forms, including Actinolite, Amosite, Anthophyllite, chrysotile, Crocidolite, Tremolite) and Material Substitutes (eg talk or vermiculite) that contain asbestos should also be regarded as carcinogenic.

CARCINOGENS LISTED BY INTERNATIONAL AGENCY FOR RESEARCH ON CANCER

	Category	Some listed carcinogens
Group 1	Carcinogenic to humans	Asbestos, coal tar distillation, tobacco, combined estrogen-progestogen menopausal therapy
Group 2A	Probably carcinogenic to humans	Biomass fuel (household combustion), petroleum refining, frying or emissions from high temperature
Group 2B	Possibly carcinogenic to humans	Mobile phone radiation, dry cleaning (occupational exposure), lead, pickled vegetables
Group 3	Not classifiable as to its carcinogenicity to humans	Cholestrol, caffeine, coal dust, fluorescent lighting

Where was it used?

Applications Include but are not limited to

Ceiling Tiles

Cement Siding

Cement Board

Floor Tiles

Insulation

Electrical Cloth

Identifying Asbestos

- Asbestos Containing Material
  - Regulation 278/05 states that “asbestos containing material” (ACM) is any material that contains 0.5 percent or more asbestos by dry weight.
- Friable Asbestos
  - “Friable” means material that can be crumbled, pulverized or powdered by hand pressure when dry
  - Is crumbled, pulverized or powdered
- Non-Friable
  - Is just the opposite, rigid, solid and no impact from hand pressure
  - Power tools will make non friable, friable

We think we might be working around or with ACM

- Get it Sampled (Right to Know)
  - Services exist to have suspected ACM bulk sampled. If the sampling results in 0.5% or more asbestos by dry weight then it is ACM.
  - Now steps must be taken to ensure that the workers and public will not be exposed to ACM.
    - Engineering Controls, Work Practices, Training, Hygiene Practices, Housekeeping, PPE, Disposal
    - If the asbestos is to be disturbed is a type 1, 2 or 3 removal. They all have strict regulations and specific training to perform this work.

Asbestos Management Program

- Under Regulation 278/05 it states that is a building contains friable asbestos it is legally required to have an asbestos management program in place.
  - The act states the following circumstances as the need to have an Asbestos Management Program
    - The owner of a building knows or ought reasonably to know or has been informed by an employer of workers in the building that material has been used in the building for any purpose related to the building is ACM;
    - The owner decides to treat material that has been used in the building for any purpose related to the building as ACM;
    - An examination of the material determines or would have determined if carried out that they material is ACM; or
    - A constructor or employer notifies the owner of a building of the discovery of material that may be ACM and that was not referred to in the report required by subsection 10(4)

Asbestos Management Program

- An Asbestos Management Program should involve both workers and management and should consist of the following:
  - Asbestos Record
  - Notification of Workers
  - Workplace inspections
  - Worker training
  - Corrective action
  - Monitoring and Follow-up

Conclusion

- If you suspect the material you are working around as ACM. Stop. Report it to your supervisor and establish if an Asbestos Management Program exists.
- Request a sample be tested, (Right to Know)
- ACM is a designated substance and know carcinogen. There is no debate that working on or around ACM is a Hazard
- Working on or disturbing suspected ACM is a contravene of the act and should be treated so. The employer, supervisor and worker all have roles regarding OHSA and Sector Specific Regulations and are obligated by law to participate in those roles.