Asbestos Awareness

What is Asbestos?

as·bes·tos

/asˈbestəs/

Noun

1. A heat-resistant fibrous silicate mineral that can be woven into fabrics, used in fire-resistant and insulating materials.
2. Fabric containing such a mineral.

Why was asbestos used?

- Asbestos appealed to manufacturers and builders for a variety of reasons. It is strong yet flexible, and it will not burn. It conducts electricity poorly, but insulates effectively. It also resists corrosion. Asbestos may have been so widely used because few other available substances combine the same qualities. (EPA website)

Chrysotile

Gaskets
Cement
Insulation
Brake pads
Brake linings
Joint compound
Roofing materials

Amosite

Cement sheets
Thermal insulation
Plumbing insulation
Insulation boards
Chemical insulation
Electrical insulation
Roofing products
Fire protection
Gaskets, lagging

Crocidolite

Ceiling tiles
Fire protection
Insulation boards
Chemical insulation
Spray-on insulation
Acid storage battery casings
Water encasement (enclosing)
Cement sheets containing asbestos
Electrical or telecommunication wires
Thermal insulation (lagging and gaskets)
Millboards (commercial ovens and steam pipes

Tremolite

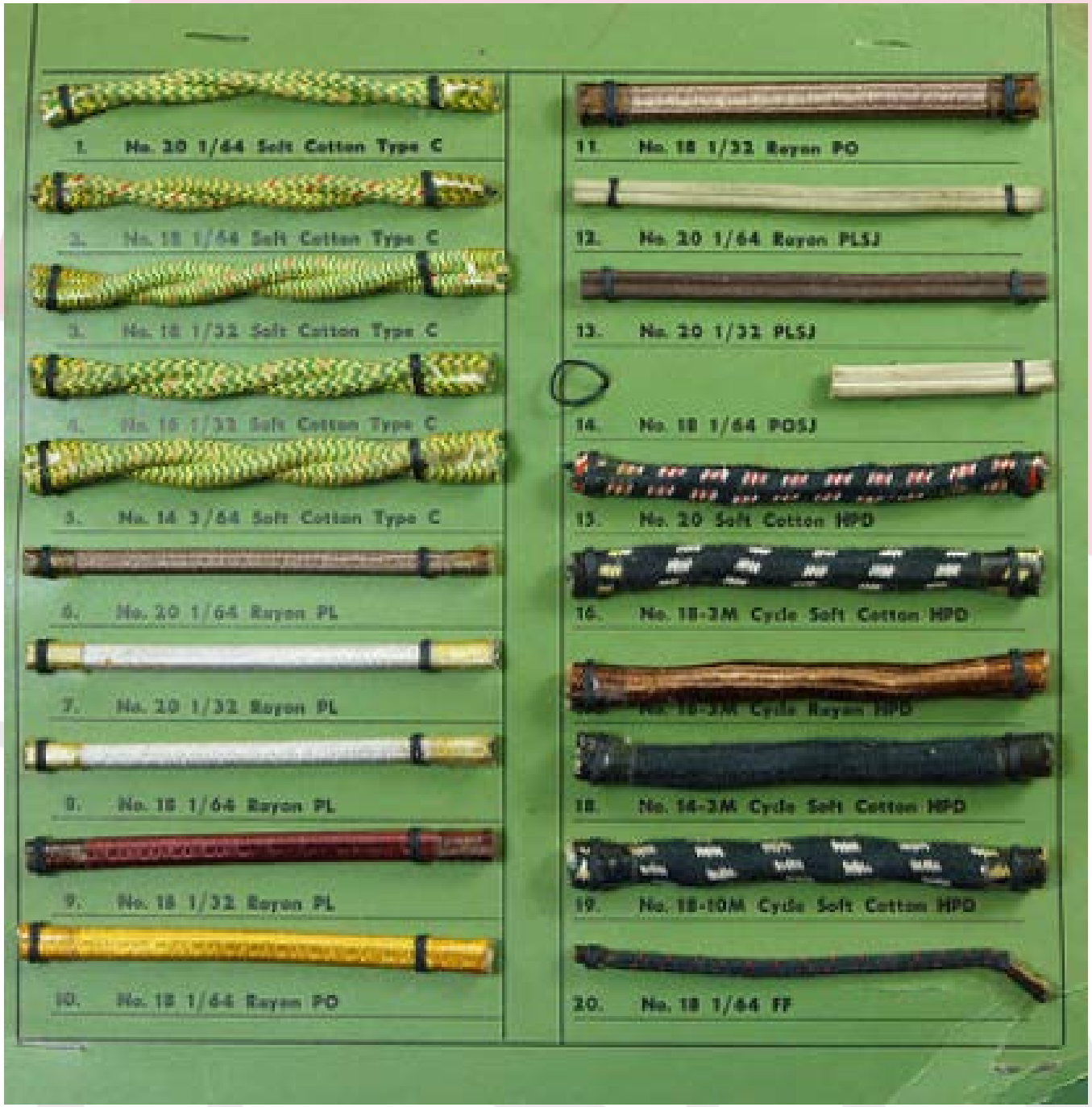
Paints
Sealants
Insulation
Roofing materials
Plumbing materials

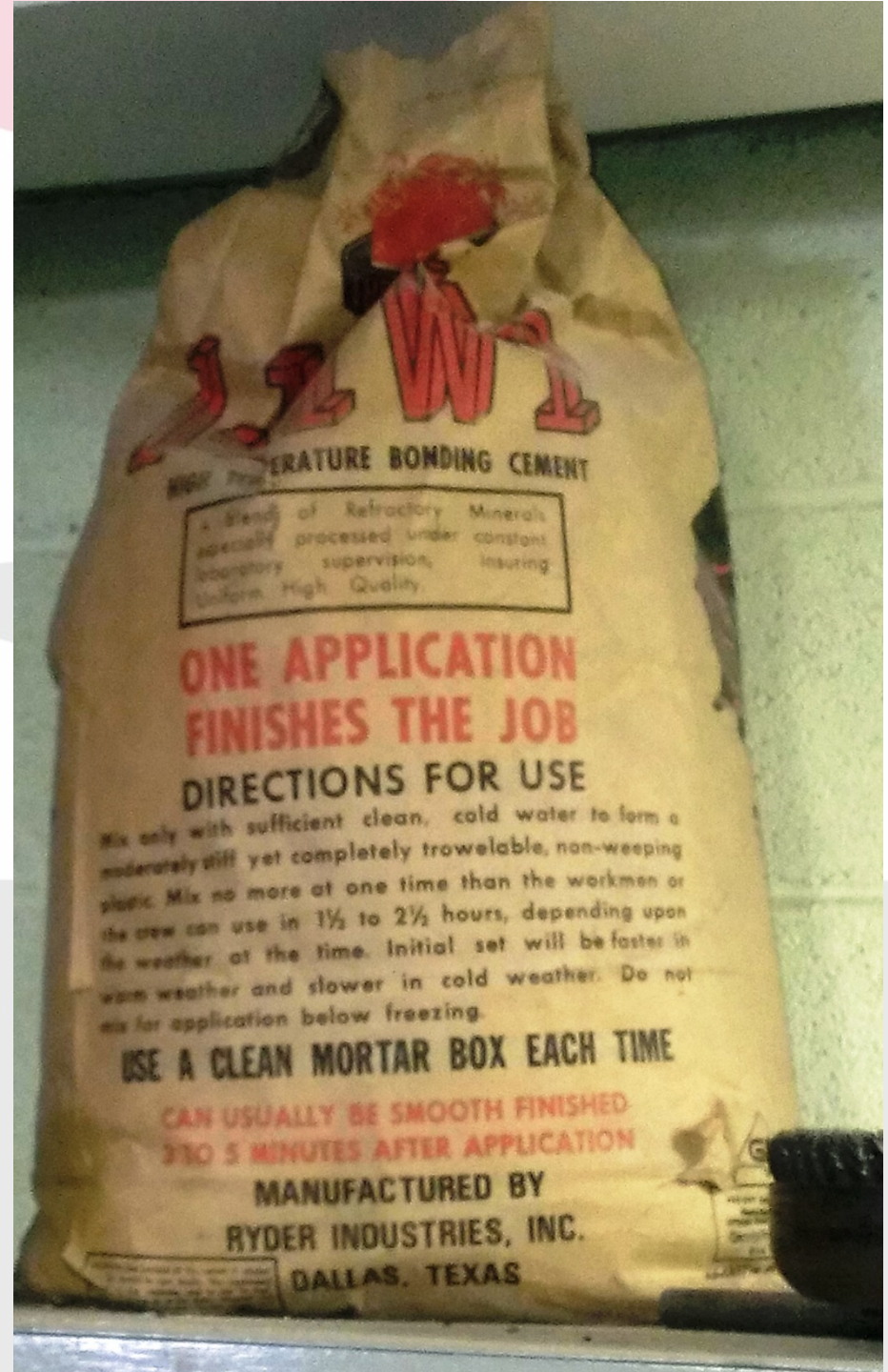
Anthophyllite

Actinolite

What is it used for and in?


NO. 1
SUPERHEATER
DRAIN
CONDENSER


1. No. 20 1/64 Soft Cotton Type C
2. No. 18 1/64 Soft Cotton Type C
3. No. 18 1/32 Soft Cotton Type C
4. No. 16 1/32 Soft Cotton Type C
5. No. 14 3/64 Soft Cotton Type C
6. No. 20 1/64 Rayon PL
7. No. 20 1/32 Rayon PL
8. No. 18 1/64 Rayon PL
9. No. 18 1/32 Rayon PL
10. No. 18 1/64 Rayon PO
11. No. 18 1/32 Rayon PO
12. No. 20 1/64 Rayon PLSJ
13. No. 20 1/32 PLSJ
14. No. 18 1/64 POSJ
15. No. 20 Soft Cotton HPD
16. No. 18-3M Cycle Soft Cotton HPD
Cycle Rayon HPD
18. No. 14-3M Cycle Soft Cotton HPD
19. No. 18-10M Cycle Soft Cotton HPD
20. No. 18 1/64 FF


RYDER
ERATURE BONDING CEMENT
ONE APPLICATION
FINISHES THE JOB
DIRECTIONS FOR USE
Mix only with sufficient clean, cold water to form a moderately stiff yet completely trowelable, non-weeping plastic. Mix no more at one time than the workmen or the crew can use in 1½ to 2½ hours, depending upon the weather at the time. Initial set will be faster in warm weather and slower in cold weather. Do not mix for application below freezing.
USE A CLEAN MORTAR BOX EACH TIME
CAN USUALLY BE SMOOTH FINISHED
3 TO 5 MINUTES AFTER APPLICATION
MANUFACTURED BY
RYDER INDUSTRIES, INC.
DALLAS, TEXAS

Asbestos Containing Material

- OSHA - *Asbestos-containing material (ACM),* means any material containing more than one percent asbestos.
- EPA - *Asbestos-containing material* (ACM) when referring to school buildings means any material or product which contains more than 1 percent asbestos.

>1 %

Categories of ACBM

- ***Surfacing*** *material* means material in a school building that is sprayed-on, troweled-on, or otherwise applied to surfaces, such as acoustical plaster on ceilings and fireproofing materials on structural members, or other materials on surfaces for acoustical, fireproofing, or other purposes.
- ***Thermal system insulation*** means material in a school building applied to pipes, fittings, boilers, breeching, tanks, ducts, or other interior structural components to prevent heat loss or gain, or water condensation, or for other purposes.
- ***Miscellaneous*** *material* means interior building material on structural components, structural members or fixtures, such as floor and ceiling tiles, and does not include surfacing material or thermal system insulation.

Friable

40 CFR 763.83: Friable when referring to material in a school building means that the material, when dry, may be crumbled, pulverized, or reduced to powder by hand pressure, and includes previously nonfriable material after such previously nonfriable material becomes damaged to the extent that when dry it may be crumbled, pulverized, or reduced to powder by hand pressure.

When Is Asbestos Dangerous?

Inhalation

The air pathway is the most important route of exposure to asbestos, and the route that most commonly leads to illness. Exposure scenarios include inhalation of contaminated air and dust

- during work with asbestos
- during work in the same space as others working with asbestos
- on worker's skin, hair, and clothing
- in areas surrounding a mining operation
- in areas of the world where construction or other human activity (such as gardening) results in disturbance of natural outcrops of asbestos-bearing rock
- in homes and buildings where renovations or demolitions disturb asbestos-containing building materials

The first four scenarios were common until the 1970s, when the Environmental Protection Agency (EPA) began to regulate the industrial uses of asbestos and the Occupational Safety Health Administration (OSHA) developed workplace exposure standards (Seidman and Selikoff, 1990). Today, the last two scenarios are the more common because of declining use of asbestos in developed countries (British Thoracic Society 2001).

Ingestion

Ingestion—a minor pathway of exposure—occurs through

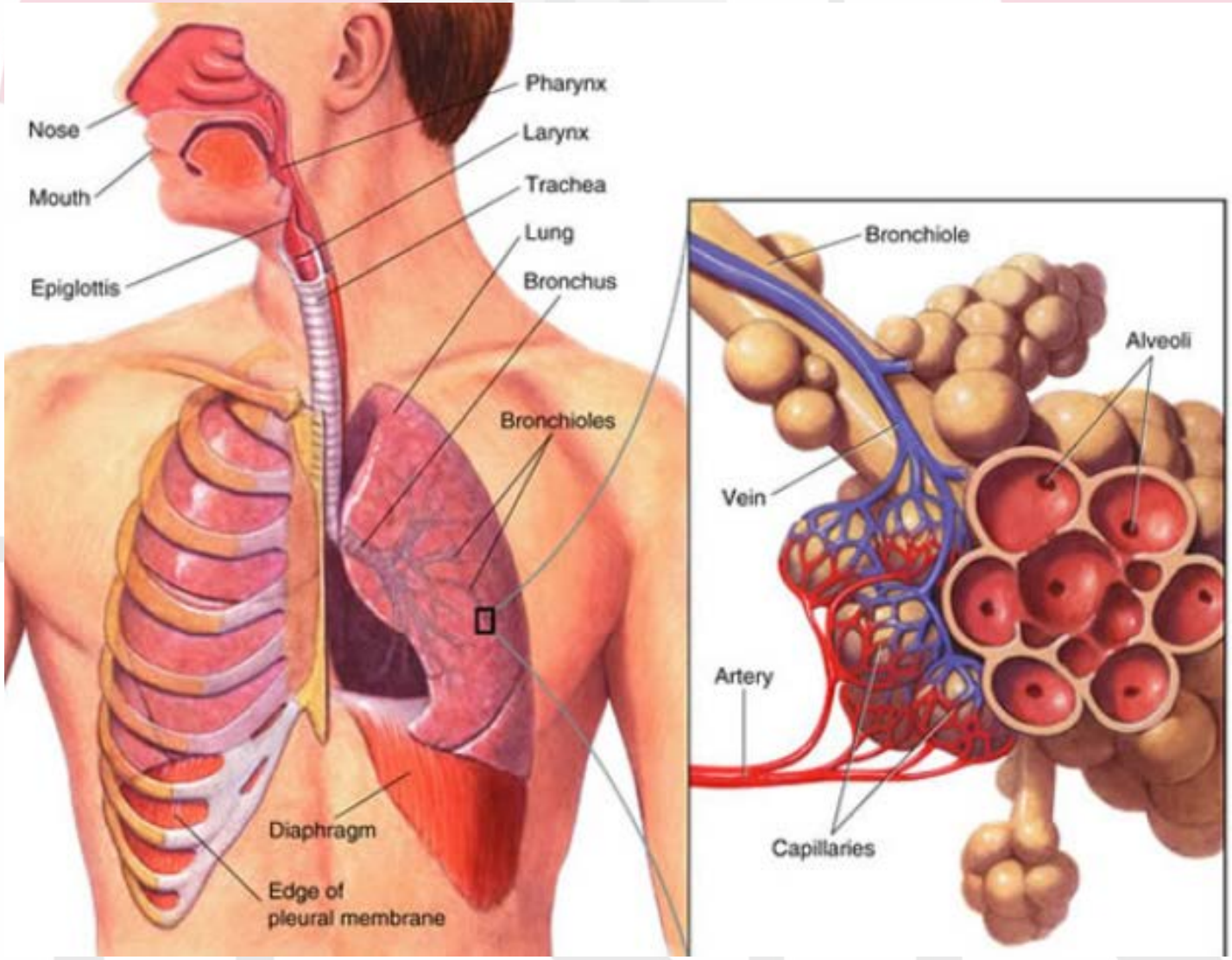
- swallowing material removed from the lungs via tracheociliary clearance by a person who has inhaled asbestos fibers into the lungs
- drinking water contaminated with asbestos for example, from erosion of natural land sources, discarded mine and mill tailings, asbestos cement pipe, or disintegration of other asbestos-containing materials transported by rain

Asbestos levels in most water supplies are well below the EPA maximum contaminant level (MCL), so significant exposure by drinking water is uncommon.

Skin

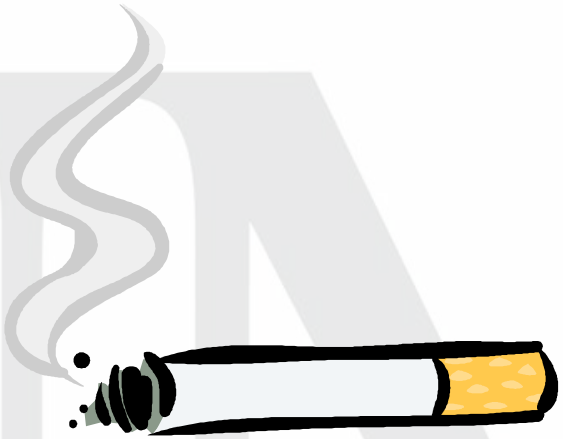
Today, with the advent of personal protective equipment, dermal contact is rarely a significant exposure pathway. In the past, handling asbestos could result in heavy dermal contact and exposure. Asbestos fibers could become lodged in the skin, producing a callus or corn, but not more serious health effects.

Respiratory System



Smoking & Asbestos

- **Cigarette smoking** temporarily paralyzes the cilia. If smoking continues long enough, the cilia wither and die. They are never replaced. The efficiency of the cilia is replaced by the smoker's inefficient cough which attempts to rid the respiratory tract of foreign particles and excess mucus.



Smoking and Asbestos Programs

- *Self-help smoking cessation materials are available through the* **UNM Employee Health Promotion Program** *(Johnson Center at 272-4460), the National Cancer Institute (1-800-4-CANCER), the American Heart Association (1-800-242-8721) and the American Lung Association (216 Truman NE at 265-0732)*

Asbestos Related Illnesses

Asbestosis

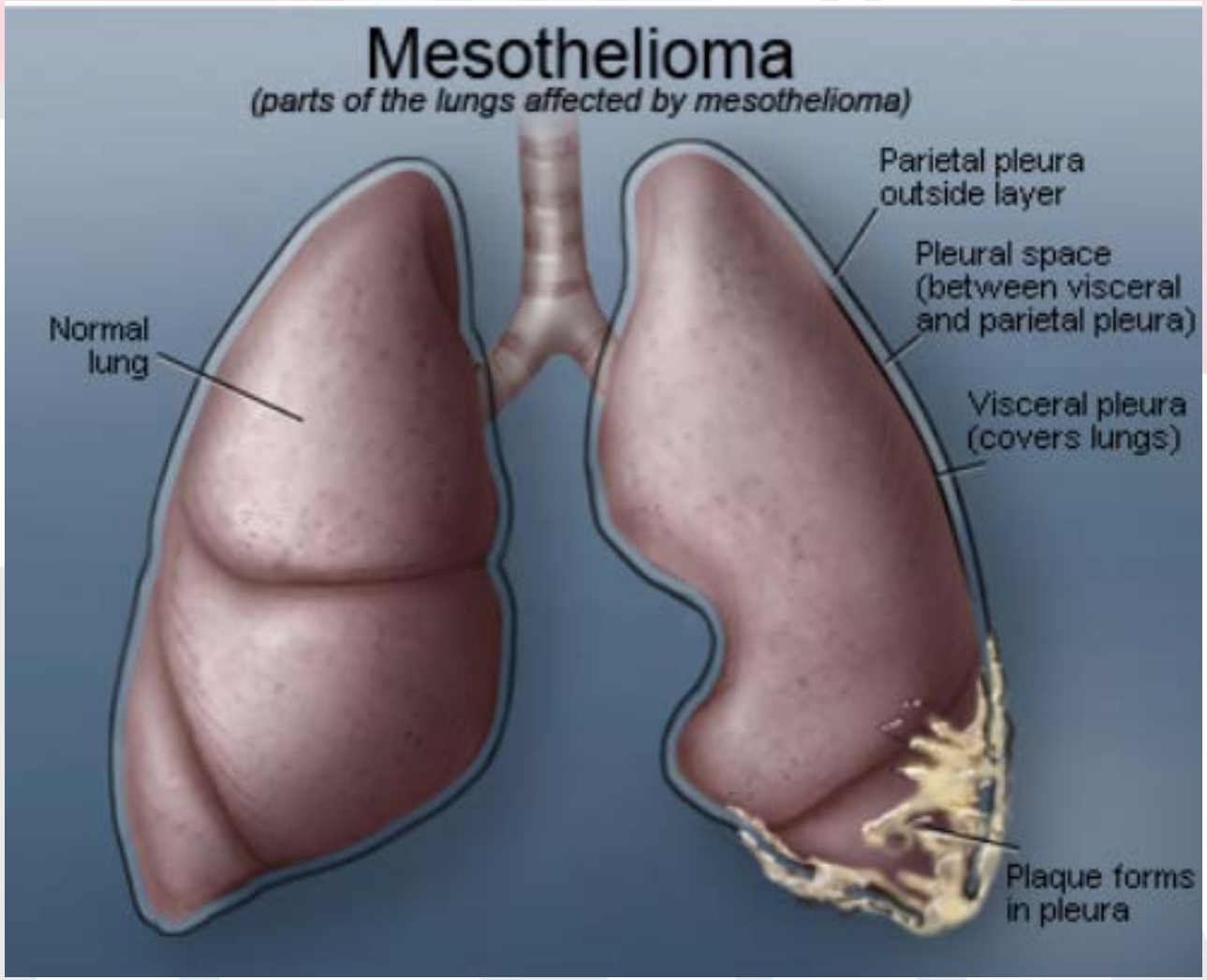
Asbestosis is a disease that involves scarring of lung tissue as a result of breathing in asbestos fibers. The scarring makes it hard for you to breathe and for oxygen to get into the blood. The disease worsens slowly over time. In some people the disease causes no symptoms, while in others it can cause severe symptoms.

There is no cure for asbestosis. A doctor can help you manage your symptoms. If you have trouble breathing, shortness of breath and a very low blood oxygen level, your doctor may recommend oxygen therapy.

Lung Cancer

When a person has lung cancer, they have abnormal cells that cluster together to form a tumor. Unlike normal cells, cancer cells grow without order or control and destroy the healthy lung tissue around them.

Mesothelioma



Latency Period

Diseases from asbestos exposure take a long time to develop. Most cases of lung cancer or asbestosis in asbestos workers occur 15 or more years after initial exposure to asbestos. Tobacco smokers who have been exposed to asbestos have a "far greater-than-additive" risk for lung cancer than do nonsmokers who have been exposed, meaning the risk is greater than the individual risks from asbestos and smoking added together. The time between diagnosis of mesothelioma and the time of initial occupational exposure to asbestos commonly has been 30 years or more. Cases of mesotheliomas have been reported after household exposure of family members of asbestos workers and in individuals without occupational exposure who live close to asbestos mines.

Avoid Exposure

- Before breaking, cutting, drilling, or any other activities that disturb building materials ask if this is Asbestos.
- Contact UNM SRS at 505-277-2753 for an inspection to determine whether the debris contains asbestos fibers.
- The University of New Mexico currently has several certified asbestos abatement contractors retained to encapsulate or remove all damaged ACM.

Acknowledgement

I _____, have completed the Asbestos Awareness training.

(Print Name)

Date: _____

Please print the acknowledgement sheet, fill in requested information and email to srsweb@unm.edu to complete training.