

## 15.8 THE STILL EMERGING PUBLIC HEALTH PROBLEM

(The 3-M's and 3-R's and 3-C's)

GEORGE A. PETERS AND BARBARA J. PETERS

*Santa Monica*

*California*

*U.S.A.*

(Book rights reserved to authors)

### **Priorities**

Attempts to control human exposure to airborne asbestos fibers have focused almost entirely on mining, milling, and manufacture ..... the 3-M's characterized as occupational exposure. It appeared to many people that this was the location or source of greatest exposure and the most easily controlled.

This "worst first" approach may have had certain policy advantages in terms of the limited funds then available and the outspoken arguments pertaining to fiber characteristics, embedded fibers, and low level exposure. Since then, nearly forgotten and neglected have been other sources of significant harmful exposure.

### **Goals**

It may be somewhat overdue, but now more attention should be focused on residential or building exposure, recreational exposure, and resource or environmental exposure..... the 3-R's that can be categorized as non-occupational exposure.

In contrast with a factory exposure of, perhaps, 40 hours a week, the residential exposure could be up to 168 hours a week. A four fold exposure for housewives and preschool children, and a supplement to a worker's factory exposure. Exposure generally occurs from deterioration, abuse, or alteration of embedded or composite materials. Our studies in apartment units have shown a significant life shortening risk that could and should be abated. In terms of overall population risks it is not acceptable, tolerable, or justified.

Similarly, asbestos rock outcroppings and contaminated land should not be considered something that is just a natural condition that is no one's responsibility. Asbestos outcroppings become weathered, deteriorated by rain and winds, and ground away by foot and vehicle traffic. The loose fibers may be blown over residential areas or enter the water system. Unfortunately, with high ambient or background fiber readings, any additional occupational and residential exposure may be considered just a minor part of the relative risk or it has been argued that the exposed persons are already injured so remediation is not warranted as a priority. Such arguments or rationalizations clearly violate the Precautionary Principle in risk assessment that has become a fundamental principle

in the European Union and some other countries.

### **Correction**

Abatement of naturally occurring asbestos may be easier and less costly than it would at first appear. Temporary abatement might be simply a ground cover rendered stable by grasses and trees. More effective would be to shelter the rock by a gravel or crushed rock layer with grass and shrubs. If necessary, drainage and filtering systems could be installed to entrap any fugitive fibers. Obviously, each site requires some modifications as determined by independent qualified professionals.

If appropriate, government regulations and standards might define when such corrective public health measures were necessary, the specific remedies to be implemented, and what kind of monitoring is desirable. It should be considered natural resources management in the public interest (an environmental concern).

Clean air and clean water also requires an informed general public, therefore vigorous health promotion efforts should be undertaken to communicate practical information that is in the self-interest of the recipient. People should also be made aware that airborne asbestos fibers not only drift over nearby residential areas, but can move over large distances without respect for local or national boundaries.

The contaminated land problem is often treated by removal of a layer of surface ground, a costly process, but one that may be required in terms of environmental assessments for real property development projects. Most often, nothing is done but to spread the problem by using contaminants for roadways, sidewalks, or land "fill" to level or prepare areas for residential or commercial building construction. The 3-C's (cover, coagulation and control) are neglected. An adequate cover (ground and geotextile), coagulation (consolidation and stabilization), and control (auditing and monitoring) is the desirable approach that should be the subject of health promotion efforts. The long term effects of drinking water contamination, due to inadequate drainage control, should always be an important consideration. Prevention is possible, but correction may be impossible!

### **Conclusion**

Many people have stated that the asbestos problem is over and done with, that enough has been accomplished, and that people are now alerted to the health risks. Nothing could be further from the truth. Misleading information and underestimation of the risks will probably take a huge toll in human lives unless a more realistic approach is taken to this world public health problem. If lives can be saved and the quality of life be improved, by reasonable means, shouldn't this be a moral and social imperative?