Second Collegium Ramazzini Statement (1993)

Threshold Limit Value of Benzene

Benzene, a significant component of gasoline and other petroleum products, is well known and has been shown to be a carcinogen in both animals and humans (Environmental Research, 59, 238-249, 1992). Total benzene usage today in the United States is approximately 11 billion gallons per year (ACGIH, 1990) and an estimated 238,000 people are occupationally exposed to benzene in petroleum refineries, petrochemical plants, gas stations, and other operations. More than 90% of the benzene produced in the United States is manufactured from petroleum sources. There is no question that benzene is a human carcinogen (EPA and IARC).

In 1989, the Committee on the Evaluation of Carcinogenic Substances, Health Council of the Netherlands, in consultation with other research institutes and with the participation of industry experts, conducted a careful health risk assessment on benzene in ambient air, using all available human and animal data. The Committee concluded, in its Integrated Criteria Document, that chronic exposure to benzene in ambient air be limited to below 12 $\mu g/m^3$ or 4 ppb. This exposure will limit the risk of leukaemia. Because no safe level above zero is known, avoiding any exposure to benzene and benzene-containing products, to the extent possible, is desiderable.

In July 1990, the American Conference of Governmental Industrial Hygienists (ACGIH) recommended that the TLV-TWA for benzene be reduced to 0.1 ppm in the workplace. This decision was reached on the basis of total available evidence concerning the dangers of benzene.

It is the opinion of the physicians and health professional scientists of the Collegium Ramazzini that the recommendation reached by ACGIH in 1990 is correct, and exposure must be limited to 0.1 ppm TLV-TWA. To set the standard of exposure to benzene any higher than 0.1 ppm presents a needless and preventable cancer danger to the lives and health of working men and women.

Third Collegium Ramazzini Statement (1993)

Chrysotile Asbestos as a Carcinogen

The Collegium Ramazzini reaffirms its position that chrysotile asbestos is a cause of cancer, with well documented data from both animal and human studies demonstrating the development of lung cancer and mesothelioma following exposure. There should be no doubt at this time that chrysotile is carcinogenic.

Neither the “amphibole hypothesis”, the “contamination theory”, nor any other revisionist view of chrysotile in the last decade of the 20th Century is a truly tenable position, and ultimately does a worldwide disservice to those working men and women, as well as those environmentally exposed, who are at risk for chrysotile-related malignancies.

The dangers to human health of exposure to asbestos, including chrysotile, were recognized early in this century, and by the 1940s it was written that asbestos should be considered a human carcinogen. Although the mechanisms of asbestos-related cancer are still not well understood, animal and human data support the cause-and-effect relationship of chrysotile exposure and the development of cancer. Analysis of lung parenchyma and pleural tissues have not proven useful in addressing the issue of carcinogenicity. Animal studies confirm the development of lung cancers and mesotheliomas, in some incidences after extremely short periods of exposure. Other studies have documented the finding of considerable, if not exclusive, chrysotile in pleural tissue.

From a public health perspective, the issue of amphibole contamination is of no scientific or practical consequence since mixtures may be found in nature and cannot be separated in application. No safe levels of exposure to any type of asbestos have been found.

Government action should move to eliminate future use of asbestos including chrysotile and to minimize risks of asbestos in-place through in-place management and removal where appropriate. These actions are necessary to protect public health and prevent malignant and non-malignant diseases caused by chrysotile.