Health issues Arising from the Use of Asbestos Cement Pipes for Drinking Water – Executive Summary

Although measurement of asbestos fibres in drinking water is technically difficult, research has indicated that most waters, whether or not distributed through asbestos cement pipes, contain asbestos fibres. This is because asbestos is widely found in the environment as a consequence of natural dissolution of asbestos-containing minerals. Asbestos cement pipes can give rise to an increase in the numbers of asbestos fibres in drinking water, particularly when first installed. The risks to health from ingestion of asbestos fibres in food and drinking water have been extensively studied by both epidemiology and by experiments in laboratory animals.

Most epidemiological studies found no association with any specific gastrointestinal cancers, although a small number of studies did find a weak positive association. The studies considered the best did not provide evidence for a link between asbestos in drinking water and cancer. Of the 8 long-term animal studies, only one suggested a possible statistically significant increase in benign tumours in one sex, when compared to historical control animals but not the control animals used in the study.

There is potential for exposure to asbestos fibres in drinking water by inhalation of aerosol droplets or from fibres that are trapped on clothing during washing and which are subsequently released into the atmosphere. This has been studied and except in an extreme case there was no measurable increase in the number of fibres in the indoor atmosphere of houses. In addition, the fibres in drinking water consist almost entirely of short fibres, which are considered to contribute little or no risk to public health.

The World Health Organisation considered asbestos in drinking water arising from asbestos cement pipe in their 1993 edition of the Guidelines for Drinking Water Quality. The guidelines state “Although well studied, there has been little convincing evidence of the carcinogenicity of ingested asbestos in epidemiological studies of populations with drinking water supplies containing high concentrations of asbestos. Moreover in extensive studies in laboratory species, asbestos has not consistently increased the incidence of tumours of the gastrointestinal tract. There is therefore no consistent evidence that ingested asbestos is hazardous to health and thus it was concluded that there was no need to establish a health-based guideline value for asbestos in drinking water”.

Asbestos cement pipes have been widely used for drinking water distribution and there are many kilometres to be found all over the world. Although few countries still install asbestos cement pipe, primarily because of issues with handling, there appears to be no concern for health of consumers receiving the water and no programmes to specifically replace asbestos cement pipe for this reason.