

lung tissue frequently have to be asbestos fibres. The human body, generally speaking, reveals an excellent defence against non-asbestos fibres, most of them having a diameter $> 3 \mu$.

Further data given in this chapter will reveal that the more stiff amphibole fibres, and short chrysotile fibres, may reach the pleura, passing through the lung tissue in a mechanical way. Moreover it has been established that in these circumstances asbestos fibres may be found not only in the lungs and pleura, but also in the lymph nodes and spleen (Meurmann 1966).

Uptake through the digestive tract

Uptake of asbestos fibres through the digestive tract occurs in a direct and an indirect way:

Direct: ingestion of fibres in asbestos exposed persons through the mouth. This happens in eating and drinking, in smoking in asbestos contaminated ambient air, in insufficient hygienic conditions of hands and clothing, and in swallowing of asbestos fibres trapped in the nose and mouth from contaminated respiratory air.

Indirect: sputum, produced in the normal physiological processes from the lungs and lower respiratory tract, will be swallowed regularly. After exposure to asbestos containing ambient air a multitude of asbestos fibres will be found in the sputum, either as fibres or as asbestos bodies (see chapter VII).

Discussions and experiments on the possibility of ingested asbestos fibres penetrating the intestinal wall are still going on (Lee 1974, Cross 1974), in contrast to the proven passage through the lung tissue. This possibility is not excluded and might be responsible for the excess incidence of gastrointestinal cancer in cohorts in heavy occupational exposures (see chapter VIII).

In this way asbestos fibres afterwards may be found in various organs such as the spleen, liver, kidneys, lungs, brains, lymph nodes and blood.

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