



Environmental and Nutritional Diseases

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Many diseases are caused or influenced by environmental factors. Broadly defined, the term *environment* encompasses the various indoor, outdoor, and occupational settings in which human beings live and work. In each of these settings, the air people breathe, the food and water they consume, and the toxic agents they are exposed to are major determinants of health. The environmental factors that influence our health pertain to individual behavior (“personal environment”) and include tobacco use, alcohol ingestion, recreational drug consumption, diet, and the like, or the external (ambient and workplace) environment. In general, in developed countries personal behavior has a larger effect on health than the ambient environment, but new threats related to global warming (described later) may change this equation.

The term *environmental disease* refers to conditions caused by exposure to chemical or physical agents in the ambient, workplace, and personal environment, including

diseases of nutritional origin. Disease related to environmental exposures mostly comes to the public’s attention after dramatic events, such as the methyl mercury contamination of Minamata Bay in Japan in the 1960s, the exposure to dioxin in Seveso, Italy, in 1976, the leakage of methyl isocyanate gas in Bhopal, India, in 1984, the intentional contamination of Tokyo subways by the organophosphate pesticide sarin in 1995, and the Fukushima nuclear meltdown following the tsunami in 2011. Fortunately, these types of disasters are rare, but more subtle forms of environmental disease caused by chronic exposure to relatively low levels of contaminants, occupational injuries, and nutritional deficiencies are extremely common. The International Labor Organization has estimated that work-related injuries and illnesses kill approximately 2 million people per year globally (more deaths than are caused by road accidents and wars combined). In the United States in 2012, there were nearly 3 million occupational injuries