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Occupational mortality among firefighters: assessing the association.

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Because of their occupational exposure to a variety of toxic agents, fire fighters may be at risk for a number of exposure-related diseases. We reviewed the current literature on disease risk among fire fighters to compare findings and to infer magnitude of risk. A standard mortality ratio (SMR) of 200 is equal to an attributable risk of 100% of expected, sufficient to justify presumption in most workers' compensation systems that accept this. We therefore concentrated on risks that approach or exceed an SMR of 200 or an equivalent risk estimate, bearing in mind that confidence intervals around these estimates are wide. Based on the criteria for presumption of occupational risk, we suggest the following conclusions with respect to general presumption of risk: (1) Lung cancer: There is evidence for an association but not of sufficient magnitude for a general presumption of risk. (2) Cardiovascular. There is no evidence for an increased risk of death overall from heart disease. Sudden death, myocardial infarction, or fatal arrhythmia occurring on or soon after near-maximal stress on the job are likely to be heart related, but such "heart attacks" occurring away from work cannot be presumed to be work related. (3) Aortic aneurysm: The evidence is incomplete for an association, but if an association does exist, it would probably be of a magnitude compatible with a general presumption of risk. (4) Cancers of the genitourinary tract, including kidney, ureter, and bladder: The evidence is strong for both an association and for a general presumption of risk. (5) Cancer of **brain**: Incomplete evidence strongly suggests a possible association at a magnitude consistent with a general presumption of risk. (6) Cancer of lymphatic and hematopoietic tissue: By group, there is some evidence for both an association and a general presumption or risk. However, the aggregation is medically meaningless. We therefore recommend a case-by-case approach. (7) Cancer of the colon and rectum: There is sufficient evidence to conclude that there is an association but not that there is a general presumption of risk. (8) Acute lung disease: Unusual exposures, such as exposure to the fumes of burning plastics, can cause severe lung toxicity and even permanent disability. This does not appear to result in an increased lifetime risk of dying from chronic lung disease.

Publication Types:

- Review
- Review literature

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