

Airway obstruction and hypersensitivity among young workers: a 15-year follow-up of machinist and construction apprentices

Principal investigator:

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Purpose:

To examine whether changes in lung function in the first two years of employment put workers at a higher risk of chronic lung disease in later life, and to evaluate the impact of long-term exposure to metalworking fluids on lung health.

Method:

The research team will follow up with subjects of a study conducted 15 years ago on apprentices in four trades in B.C. (machinists, electricians, insulators, and painters). Information will be collected on current and past respiratory symptoms, current lung function, bronchial responsiveness, demographics, and environmental and other risk factors for respiratory disease. To examine the impact of long-term exposure to metalworking fluids, statistical models will be built relating the level of exposure to adverse respiratory outcomes.

Importance:

If the early changes in lung function are found to predict later disease, this will have a significant impact on the prevention of chronic obstructive lung disease and asthma among Canadian workers. The study will also have a major impact on the understanding of the quantitative impact of metalworking fluid exposure — providing needed scientific information for standard setting and targeted prevention strategies.