

WHAT DO WE KNOW ABOUT WOOD DUST EXPOSURE AND NON-MALIGNANT DISEASES - AN EPIDEMIOLOGICAL APPROACH

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Roughly tree million workers in the European Union are regularly exposed to wood dust at work. Well documented and possible non-malignant health effects caused by wood dust exposure include asthma, chronic bronchitis, impairment of lung function, rhino-conjunctivitis, skin problems, allergic alveolitis, and pulmonary fibrosis. Asthma and rhinitis caused by Western red cedar exposure is well characterised. Between 1 and 13 % of western red cedar workers develops asthma, and exposure-response relations has been revealed. The main aetiological agent, plicatic acid, has been identified, and probably non-IgE Immunological mechanisms are most important. Other types of wood dust can cause asthma, rhino-conjunctivitis, chronic bronchitis, skin affection and acute decline in lung function, Unfortunately, our present knowledge is mainly based on case reports, questionnaire data, and lung function from cross sectional studies. Data on mechanisms is scanty, and practical no data on the incidence of non-malignant diseases caused by wood dust is available Though, recently some evidence for exposure-response relations between wood dust exposure below 1 mg/m^3 and respiratory health effects as asthma, rhinitis, and decline in lung function has appeared. Wood dust exposure may cause chronic obstructive lung disease, allergic alveolitis and pulmonary fibrosis, but the documentation is very limited.

In order effectively to prevent diseases caused by wood dust exposure, we have to expand our knowledge. Future research should focus on:

- Exploring the temporal relation between wood dust exposure and diseases with latency time (e.g. asthma, chronic obstructive lung diseases)
- Revealing dose-response relations between wood dust exposure and health effects
- The impact of concurrent exposures, e.g. biohazards, terpenes
- The impact of different wood species
- The disease mechanisms
- Documentation of the health impact of preventive initiatives