



## EDITORIAL

# The new guidelines for management of work-related asthma

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**W**ork-related asthma, which includes occupational asthma as well as work-aggravated asthma, has become one of the most prevalent occupational lung diseases. In spite of increasing knowledge of the causes and underlying pathophysiological mechanisms, this preventable disorder continues to account for at least 15% of all asthma cases in the adult population and is responsible for a significant socioeconomic burden [1, 2]. Using national data sets for 1999 from the USA, LEIGH and co-workers [3, 4] estimated the annual direct and indirect costs of occupational asthma and occupational chronic obstructive pulmonary disease (COPD) to be US \$1.5 and \$2.2 billion, respectively, mostly borne by affected workers, their families and the taxpayer. In 2005, the financial burden for work-related asthma and COPD (the latter only refers to hard coal miners) of the German statutory accident insurance institutions amounted €103.1 and €23.6 million, respectively [5]. The total costs across Europe are not known in detail, but should be more than €1.2 billion per year.

A panel of international experts was convened to develop an overview chapter [1] and five additional chapters [6–10] of the European Respiratory Society guidelines on the management of work-related asthma. They are based on systematic reviews for five key questions and 30 ancillary questions on occupational and work-aggravated asthma. The guidelines cover prevention and include issues of diagnostics, personal and occupational risk factors, medical screening and surveillance, and, finally, interventions to prevent the disease and improve prognosis. They intend to inform and help occupational health professionals as well as employers who are responsible for creating healthy workplaces according to national and European regulations.

The Task Force makes far-reaching recommendations based on evidence statements derived from the key and ancillary questions. 42 evidence-based statements were formulated. From these statements, recommendations for management options, especially in prevention, were formulated. Primary prevention is the first choice. This means substituting asthma-inducing agents with harmless substances or reduction of exposures to levels not causing work-related asthma. Examples for reducing exposure include engineering controls, such as

local exhaust ventilation systems, or process redesign, such as encapsulation of powdered allergenic enzymes.

Further major recommendations include intensifying secondary preventive measures with screening and surveillance of exposed workers (those with high-risk exposures or increased individual susceptibility) enabling early diagnosis and removal from harmful exposure, which is associated with a better prognosis. Those failing surveillance need comprehensive assessment to confirm or exclude work-related asthma. Education needs improvement to improve worker's ability to work safely, avoid acute exposures and avoid smoking as a co-factor in lung function deterioration. Respiratory protective equipment is the last resort for prevention and is ineffective for long-term control in affected workers.

These guidelines have some features in common with previously published guidelines and statements, *i.e.* British, Spanish and North American guidelines [11–19]. However, there are also several differences. For example, for the first time, sufficient information was retrieved to allow these guidelines to recommend medical surveillance programmes for all workers with increased risk of work-related asthma. The American College of Chest Physicians (ACCP) supports serial methacholine challenges for diagnosis [11] whereas the present guidelines favour a computerised interpretation system for records of serial peak expiratory flow or spirometry readings. Similar to the ACCP document, allergological testing with occupational allergens is emphasised if immunoglobulin E-mediated occupational asthma is assumed. Furthermore, gaps in current knowledge of causes and mechanisms were identified and respective future research requirements outlined.

The essential message of these guidelines is that the present knowledge of causes and mechanisms can lead to substantial improvements in the management of work-related asthma. Work-related asthma is obviously significantly under-recognised in most statistics on occupational diseases. The same is true for occupational COPD, which shows some overlap with work-related asthma, but has been scarcely covered in population studies to date. Occupational causes of airway disorders should always be considered if a worker develops workplace-related respiratory symptoms and/or an obstructive ventilatory pattern during occupational exposure to airborne allergens or irritants. These frequent disorders have huge socioeconomic and psychosocial implications [13]. They also raise ethical issues relating to the costs of preventing reduced quality of life in affected workers (as measured by disability- and quality-adjusted life-yrs) [20]. Proper management of work-related asthma is not expensive,

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whereas not managing work-related asthma is very costly and associated with financial as well as psychosocial disadvantages for affected workers and society in general. Compensation of work-related asthma is a critical issue that varies widely between European countries, mostly being inadequate and needing considerable improvement [10].

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#### STATEMENT OF INTEREST

None declared.

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