BOHRF

Occupational Asthma

A Guide for Occupational Health Professionals, Safety Professionals and Safety Representatives

March 2010

British Occupational Health Research Foundation

This leaflet summarises the key evidence based advice for policy and practice on the risk management of occupational asthma.

The full guidelines, report, and analysis of relevant research is available from the British Occupational Health Research Foundation. It can also be accessed on the BOHRF website at www.bohrf.org.uk.

BOHRF is an award-winning, innovative niche charity specialising in the provision of evidence based solutions to practical questions asked by employers and their advisers in both private and public sectors.

Our mission is:

'Bringing employers and researchers together to produce research that will contribute to good employee health and performance at work'.

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Occupational asthma (OA) is thought to be the cause for about 1 in 6 cases of asthma in adults of working age. Many agents have been reported to cause OA and the major determinant of risk for the development of OA is the level of exposure to its causes.

Asthma is characterised by variable airflow limitation and airway hyper-responsiveness. Once sensitised, exposure to very small concentrations of the substance will cause a reaction. The long term effects can be significant in terms of disability and employability. Even if redeployment is possible, employment in lesser skilled jobs and reduction in income are often the outcomes.

This leaflet summarises the results of a recent review of the scientific evidence on OA*. The review sought to answer some of the key questions about the prevention, diagnosis and practical management of this important condition. The information in this leaflet is intended for Occupational Health Professionals, Safety Professionals and Safety Representatives for planning programmes for the prevention of OA, rather than for medico-legal purposes.

.*Guidelines for the prevention, identification & management of Occupational Asthma: Evidence review and recommendations. British Occupational Health Research Foundation. London 2010

What causes OA?

The most frequently reported agents include isocyanates, flour and grain dust, colophony and fluxes, latex, animals, aldehydes and wood dust. However there are many recognised sensitisers *(http://www.hse.gov.uk/asthma/substances.htm)*

Who is most at risk?

The workers reported from population studies to be at increased risk of developing asthma include bakers, food processors, forestry workers, chemical workers, plastics and rubber workers, metal workers, welders, textile workers, electrical and electronic production workers, storage workers, farm workers, hairdressers, cleaners, painters, plastic workers, healthcare workers and laboratory technicians

How can it be prevented?

Employers should assess their workplace for known agents and the risk of exposure, which depends on how the substance is being handled. Exposure should be reduced by elimination or substitution. Where this is not possible, then effective control of exposure at source should be implemented.
Personal respiratory protective equipment reduces the incidence of, but does not completely prevent OA. When respiratory protective equipment is worn, the employer must ensure that the appropriate type is used and maintained, fit testing is performed and workers understand how to wear, remove and replace it.

It is important that workers are informed about the causes of OA in the workplace and the need to report symptoms as soon as they develop.

What will the worker complain of? Symptoms of asthma, of whatever cause, include attacks of wheezing, coughing, chest tightness or shortness of breath. The symptoms can develop immediately after exposure, but sometimes appear several hours after exposure, possibly at night, and so any link with workplace activities may not be obvious. Other associated conditions are rhinitis (sneezing/runny nose) and/or conjunctivitis (itchy and inflamed red eyes).

What should be done at the pre-employment stage? Prospective employees should be asked about pre-existing asthma caused by sensitisation to substances that they might be exposed to in their new job. If they already have asthma caused by the substance(s), they should be advised that they are not suitable to undertake this work, if exposure can not be adequately controlled.

Poorly discriminating factors such as atopy, family or personal history of asthma and cigarette smoking should not be used to exclude individuals from employment.

How often and what type of health surveillance should be done?

As a minimum, a respiratory questionnaire enquiring about work related upper and lower respiratory symptoms should be completed annually.

A competent person should assess the requirement for further health surveillance on the employer's risk assessment, which will depend upon the nature of the substance handled, the effectiveness of control measures and the likelihood of exposure. Further testing of lung function and referral for immunological blood tests or skin prick testing, which detect sensitisation, may be appropriate.

- For many substances the risk of developing OA is greatest during the early years of exposure. Therefore more frequent surveillance is indicated for the first few years of exposure.
- Workers with pre-existing asthma of any origin should have more frequent surveillance to detect any potential deterioration in lung function
- Workers who develop rhinitis should have increased surveillance, and the workplace exposure should be investigated and reduced.

How do we find out if someone has OA?

Any worker with symptoms of asthma or rhinitis which are new, recurrent or getting worse should be asked about their job and materials and whether the symptoms improve regularly when away from work.

If a worker is suspected of having OA they should be referred without delay to a physician with expertise in OA. This is likely to be an Occupational Health or Respiratory Physician of Consultant status. A diagnosis of OA is likely to be confirmed in approximately half of these individuals.

To assist in the diagnosis of the condition, the worker should be provided with a peak flow meter and asked to note, while still exposed, the best of three readings at least four times a day (for three weeks), to include consecutive days at and away from work.

Physicians should confirm a diagnosis of OA supported by objective criteria (lung function testing, immunological or both) and not on the basis of history alone, because of the potential implications for future employment.

When any one employee develops confirmed OA or rhinitis the exposure and the presence of symptoms of other workers should be investigated.

What is the best way of managing someone with OA?

The likelihood of improvement or resolution of symptoms is greater in those who have a shorter duration of symptoms and relatively normal lung function at the time of diagnosis. Early identification and early avoidance of further exposure to its cause improves the prognosis of OA.
The pharmacological management of patients with OA should follow published clinical guidelines for asthma independent of the cause. OH practitioners should encourage the worker to take any medication as prescribed.

When should exposure cease?

Workers diagnosed as having OA should avoid further exposure to its cause in the workplace.

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